preparation and postoperative care of surgical patients

This brings us face to face with the question, *"Is it necessary to maintain a nitrogen balance in surgical cases?"* The answer is not "yes" or "no" In the uncomplicated case, the loss of proteid is temporary and the deficit will be adjusted during convalescence In the poor risk patient or the case beset by unforeseen complications, maintenance of the nitrogen balance not only is imperative, but the actual difference between success and failure may rest upon the proteids Alteration in albumin globulin ratio may become so grave as to be irreversible It is not difficult to select a group of cases in which we can predict a protein deficit at the time of operation as well as a deficit after operation We noted fifty cases admitted to the hospital, selected at random, in which 25 per cent were below normal in serum protein In carcinomatous patients, or those with fistulae, protracted vomiting or diarrhea, we can expect a much larger percentage to show protein deficiency, even to a critical degree We wish to stress the importance of protein blood level determinations in poor risks and cases to be subjected to prolonged operations

In 1936, Elman described the use of amino acid solution for parenteral use, subsequently he and others have studied the use of additional oral and parenteral amino acid solutions We have investigated the use of a protein digest solution which is prepared from an enzymotic digest of a mammalian proteid The crude digest was purified by a procedure which removes all toxic or otherwise undesirable constituents, maintains the sterility of the mixture and yields a stable, heat sterilized, pyrogen free solution and a pH of approximately 6 5 The end product is approximately a 6 per cent solution that contains free amino acids polypeptide and at least 50 per cent of the nitrogen as represented as free alpha amino nitrogen No undigested proteins and proteoses are present Biological studies have shown this preparation to be adequate for nitrogen metabolism and for growth of animals when this is the only source of protein Each solution contains the following specifications

	Gm in 100 cc of solution
Total solids	6 0
Total nitrogen	0 625
α amino nitrogen (50-60% of the total nitrogen)	0 325–0 39
Ammonia nitrogen	0 004–0 005
Ash	0 85

In 300 consecutive intravenous infusions with this material there were seven reactions, or an incidence of 2 3 per cent None of these reactions was severe and only two of the seven were systemic reactions attributable to the protein digest used The other five were proven to be pyrogenic No acute thrombophlebitis was noted during the period of study and as much as 30,000 cc had been administered to one patient Nitrogen balance studies have shown that this protein is utilized by the body for both protein storage and regeneration of blood albumin The protein digest solution may be used as either a supplemental sparing protein in the postoperative management of surgical cases, or as the sole source of protein In the latter instance, when given with 10 per cent glucose, positive protein balance can be maintained consistently Since the average patient needs a minimum of ten to twelve grams of nitrogen in the early postoperative period, twenty to twenty five grams of glucose intravenously, in addition, will maintain nitrogen balance

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Exaggeration Phenomena

1. The sudden exaggeration of previously existing symptomatologies or their unexpected precipitation after surgical operations and procedures
2. The relation of exaggeration phenomena to the anaphylactic and/or allergic mechanism

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THIS communication will discuss certain peculiar and obscure episodes which are encountered from time to time in clinical surgery. Essentially, these consist of an acute or hyperacute exacerbation of previously existing symptoms for which relief is sought by operative and/or mechanical means; or the precipitation of the patient into a state for which therapeutic effort had been made as a preventive measure. The resultant condition immediately becomes of a most serious nature, rapidly assumes the attributes of a highly toxic state and is commonly fatal within a space of days. Up to the present time, no satisfactory explanation has been forthcoming for this most disturbing series of events.

This communication will (1) review the factual knowledge of each of the outstanding examples cited; (2) compare these with each other; (3) compare these with a group of pathologic states which are common and for which an explanation *has* been available for many years; (4) show that a certain similar group of pathologic and/or functional changes are always present in all of these conditions; and, (5) finally, on this basis, attempt a satisfactory explanation of these exacerbation phenomena.

SUMMARY OF PERTINENT FACTUAL CLINICAL KNOWLEDGE

*Thyrotoxicosis:** Thyrotoxicosis (exophthalmic goitre, Basedow's disease, etc.) is characterized by a fairly frequent acute, sometimes fulminant onset, by sudden spontaneous exacerbations, or acute recurrences, and, specifically for this discussion, by hyperacute, markedly intensified, postoperative episodes commonly referred to as "crises." All types of thyroid operation done for thyrotoxicosis and, frequently, other types of operation in various other parts of the body done for other reasons in thyrotoxic patients, carry the danger of a subsequent crisis.

The symptoms of a thyroid crisis—those of thyrotoxicosis in general but carried to an excessively exaggerated degree—are well known and need no repetition. There are clinical manifestations of tremendous toxicity and the patients die in hyperpyrexia.

There is abundant evidence (1) that the entire disease including all such episodes is a continuous process (Hertzler's[23] conception) based upon some underlying condition; (2) that all such acute or hyperacute exacerbations, recurrences and crises are due to the sudden release of some factor which acts in a very powerful manner, apparently through the thyroid as a culminating agent and (3) that the sudden release of this factor is in the nature of an antigenic and/or catalytic agent in an already sensitized or hypersensitized individual. In this conception, it seems obvious that thyroid operation in a thyrotoxic individual followed immediately by a "crisis," is, for practical purposes, a laboratory experiment in which a successful "take" has occurred; this is corroborated by the fairly large number of "takes" that follow the operative insult.

The difficulty in understanding this sequence of events is due to the fact that

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* This subject was extensively discussed on another occasion.[52]

the pathogenesis of this sequence is rarely made clear by postmortem examination Nevertheless, it is obvious that such overwhelming disturbances are due to profound blood chemical and nervous changes

The possible role of infection in awakening thyrotoxicosis is so well recognized as not to be worth mentioning again, certainly almost any infection may bring to light latent hyperthyroidism or may exaggerate the fully developed condition Rosenow[37] is the only bacteriologist who has claimed to find a specific organism that might produce it, his observations have never received very serious consideration

The relation of asthma to hyperthyroidism also has been commented upon repeatedly (Fitz[18]) Indeed Widal and Abrami[51] also claimed that the asthmatic hyperthyroid could often be cured of asthma by irradiation of the thyroid gland, another observation which has not received wide confirmation

Mental shock as a trigger mechanism is always brought up in discussion on the exciting causes of thyrotoxicosis Bram[illegible] believed that he had discovered evidence of psychic trauma in 85 per cent of his cases

Neurological pathways and a neurohormonal cellular system have been demonstrated (Sunder Plassmann[44]) whereby an excitatory cause could be quickly distributed and bring about acute or hyperacute phenomena (crises) There is further corroborative factual knowledge regarding many similarities between thyrotoxicosis, neurological allergy, epilepsy and certain mental states, especially fear

In the medical treatment of thyrotoxicosis and in the preparation of thyrotoxic patients for operation, iodine (Lugol's solution) seems to decrease the already existing sensitization of the *patient* The occasional uncontrolled contradictory effect which it sometimes causes, is in line with the occasional similar action of other antigenic bodies

Hepatic changes appear to be an integral part of the syndrome of thyrotoxicosis This can be demonstrated clinically by the occurrence of icterus, physiologically, by the increasing evidence of altered hepatic dysfunction, experimentally, by the evidence of hepatic dysfunction following administration of thyroid substance and thyroxin and morphologically by structural changes in the liver, varying in the acute stages from widespread degenerative, fatty and necrotizing processes to the chronic lesion in which the changes are interlobular, irregularly distributed, involving the peripheral portions of the lobule and showing relatively more fibrosis and lymphatic infiltration than bile duct proliferation

HEPATIC CONDITIONS, HEPATO RENAL SYNDROME

There are various pathological conditions in the liver parenchyma which are independent of obstruction at the outlet of the duct system, the manifestations of which include jaundice, gastrointestinal symptoms, changes in hepatic function *and secondary renal changes* Sometimes one is sure that a "medical" condition is present, at other times there is doubt and a "surgical" condition is suspected without possibility of complete proof When exploration is undertaken and no adequate "surgical" cause is found, no further procedure is done and the abdomen is closed In other similar cases, it is a fairly common practice to attempt to relieve or cure the condition by biliary drainage either into the gall bladder or into the common or hepatic duct

Commonly such operations lead to no

therapeutic affect and the postoperative course repeats that which had been previously present. In any event in certain not so-small groups, there follows almost immediately after operation, an increase in the symptomatology with shortly, an unexpectedly severe exaggeration of the latter and a rapidly fatal outcome. These effects appear when no drug (i.e., anesthesia with ether, etc.) or other toxic agency had been exhibited; and when the only new factor has been the deprivation of fluid and food necessary to preparation for operation and in the immediate postoperative period, plus the operative manipulations.

The outstanding demonstrable factors discernible in this sequence of events include destructive changes in the liver parenchyma with abnormal liver function, secondary renal changes, and in some cases, hyperpyrexia. The entire subject has been extensively reviewed by me (Wilensky[53]) recently under the general term of the "Hepato-renal syndrome." No other changes can be recognized in these cases: one must assume that under the stress of the operation, some factor has been released in the hepatic environment which has the exaggerated effect of a "catalytic" agent with extraordinary distribution effect.

SUDDEN RELEASE OF OBSTRUCTION

Typical forms of obstruction to the outflow of the fluid and/or solid contents of a hollow excretory passageway, are well known as regards the biliary, the urinary and the alimentary tract. A curious antithesis exists in all cases of obstruction; trouble begins and develops because the obstruction is not relieved; occasionally an exaggerated form of the same abnormality and disability is precipitated when the obstruction is more or less suddenly relieved.

1. *In intestinal obstruction:* The phenomena of intestinal obstruction are well known including their clinical manifestations. There is the much more severe and dramatic high intestinal form, and a low intestinal variety of a much slower and more sluggish type. The dangers are enormously increased when vascular changes due to strangulation of the bowel are present; then the clinical manifestations are of a much higher order. If the condition is neglected, necrotic areas form, perforation of the bowel follows and the patient dies of terminal peritonitis.

The earliest instance which Elman[16] could find of death following close on the sudden release of intestinal obstruction was reported in 1887 by Schede.[38] Similar cases were described by Briddon[6] in 1893 and by J. B. Murphy[32] in 1897; others have been reported since. A recent example was reported by Heusser and Schar.[25]

The rapid sequence of events follows even in some of the mildest of attacks, as illustrated in one of my own cases.

This was a young child with an intussusception of between 12 and 18 hours' duration. Release and reduction of the intussusception was the simplest of procedures and took only a few minutes. Nevertheless the reaction was overwhelmingly violent and was fatal in less than twenty-four hours.

Parenchymal changes are frequently present in the liver, especially in severe cases; renal changes are then present also (hepatorenal syndrome). In either case, the changes follow the destructive characteristics (cellular necrosis) noted in the latter syndrome; their intensity becomes progressively higher as the site of the obstruction ascends in the alimentary canal. There is usually present some degree of azotemia and the level of the latter can be used as a rough indication of the intensity of the disturbance caused by the obstruction In the fatal cases, spontaneous or postoperative, all of these anatomical and functional changes are exaggerated

Following the spontaneous or operative release of the obstruction, there is customarily a quick reversal and return to normal conditions Nevertheless, there occasionally follows after operation, an immediate and rapid exacerbation of the preceding picture with precipitation into an overpoweringly fatal toxic state with terminal hyperpyrexia This occurs in well operated cases in which as a usual finding there is no peritonitis or other sign of infection, usually in cases in which no resection has been done, and in which the sudden flare up is more or less unexpected

The suddenness of these exaggeration phenomena after release of the obstruction, indicates the sudden appearance of some "new" factor of overwhelming catalytic effect with remarkable capability for rapid and diffuse distribution

2 *In calculus renal obstruction* More or less sudden obstruction by calculi in the urinary tract on one side, is commonly followed by restriction in the urinary secretion of the corresponding kidney up to the point of complete suppression In the presence of bilateral formation of stones, similar disturbances of function may follow One considers operative removal of the obstructing calculi with concern The patients are always carefully studied prior to operation, one assures oneself that the function of at least the better kidney is sufficiently good to warrant, at least, a unilateral operation

Usually operative removal of the stones, even on one side only, is followed immediately, or reasonably soon, by the reappearance of, or increase in the urinary function, up to the total functional capacity of that kidney at the given moment Occasionally, however, a state of complete suppression of urine follows the operation, the preoperative condition is suddenly intensified to the point of complete anuria, that is, all the manifestations of the obstructive state are suddenly exaggerated after release of the obstruction The episode is all the more striking when a unilateral operation only is done in the presence of bilateral disease

Postmortem examinations reveal the pathological conditions in the kidneys, as one supposed them to be as a result of one's examinations and operative visualization Occasionally, there are parenchymatous changes in the liver But aside from this and some cardiovascular changes, nothing is uncovered adequately to explain the postoperative events One is left then with the assumption that some factor was released during the operative manipulations which acted upon the renal parenchyma, possibly as a catalytic agent, to suppress the secretion of urine

3 *In common duct obstruction* In calculus and/or other obstruction of the common bile duct, the usual clinical, chemical and anatomic changes are well known There is abundant evidence in the literature, as has already been indicated, to the effect that the hepatorenal syndrome and/or lesions in the subacute and/or chronic form develop in conditions of the liver and biliary tract for which no kind of operation has been done and especially in cases in which there has been no demonstrable spontaneous release of the obstruction Frequently these anatomical changes and functional disabilities are not recognized in the total clinical picture Operation, nevertheless, is usually followed by reversal of the symptoms and anatomical and functional changes, and recovery of the patient

However, following operative release

of the obstruction, it sometimes happens that all of the preceding preoperative manifestations are suddenly intensely exaggerated, including the jaundice and excretory disability of the liver. Indeed, sometimes the picture approaches the complex known ordinarily as "acute yellow atrophy."

The precipitation of the patient into a highly toxic and fatal state so soon after the release of obstruction by operative means (that is, sudden release) makes the conclusion inescapable that the syndrome has some definite relation to the suddenly produced static and/or physiochemical conditions which follow the release of the obstruction.

TOXEMIA OF PREGNANCY

During labor, the uterus and its contained products of conception act in a similar manner to an obstructed biliary, urinary or intestinal tract; as such, the uterine contents during labor act as the obstructing factor; the emptying of the uterus spontaneously or by operative methods, relieves the "obstruction."

The phenomena surrounding toxemia of pregnancy have been previously reviewed. With pregnancy, too, it is well known either (1) that the manifestations of the already existing toxemia may be markedly exaggerated, or (2) that the patient may be precipitated into toxemia, when the products of conception are rapidly evacuated from the uterus. Even though it is understood that relief of the toxemia necessitates emptying of the uterus, the latter procedure is approached with much trepidation because of this danger.

On an anatomical basis, two varieties are clinically distinguished:

In one group of cases, scattered areas of hepatic lobular necrosis appear with some frequency in pregnancy complicated by "toxemia." (It is to be noted that in pregnant patients, necrosis of the hepatic cells begins in the periphery of the lobule and increases progressively toward the center, whereas in nonpregnant patients presenting the hepatorenal syndrome, the cellular necrosis begins in the center of the lobule and spreads toward its periphery.)

In other cases, typical toxemic states follow glomerulonephritis, pyelitis, pyelonephritis or vascular hypertension which, in turn, is associated with secondary nephritis. According to Peters[34] the demonstrable anatomical changes have certain features which distinguish these lesions from the ordinary acute nephritis.

Pathological changes in the liver, as well as functional impairments, seem, superficially, to be unrelated to renal or cardiovascular conditions. When the hepatic changes become severe, they approach the picture of "acute yellow atrophy"; when one considers the frequency of associated renal changes in this severe form, as indicated in a previous communication (Wilensky[63]), one must assume that some association is always present between the liver and the kidneys.

Immeasurable millenia of child bearing have accustomed women, and for that matter all female animals, to certain detrimental physiological bodies which undoubtedly form in the uterine environment, one of the outstanding recognizable effects of which is a disturbance in the cholesterol metabolism and the precipitation of stones in the biliary tract. Because mild manifestations occur in many instances (e.g., vomiting of pregnancy), and become exaggerated to various degrees, up to full blown cases of toxemia of pregnancy in a relatively few instances, it must be true that some sensitization occurs in all, and hypersensitization in a few. If one accepts this, it must follow that toxemia will sometimes result in the latter group; that precipitation into a toxemic state following evacuation of the uterus is a catalytic phenomenon in a hypersensitized individual.

COMMON ASSOCIATED FACTORS IN THE PREVIOUS CITATION

Inasmuch as some form of operative and/or mechanical manipulations occur in all of these conditions, it becomes important to consider three factors, (1) shock, (2) the effect of destroyed tissue and (3) hyperpyrexia

Shock In all forms of shock, one can recognize (1) an immediate (primary) form frequently so severe as to cause immediate death and (2) a delayed (secondary) form which develops during the first 48 to 72 hours after the appearance of the cause. Primary shock is characterized by sudden very great vascular collapse, as its most prominent effect In secondary shock, the manifestations, while essentially the same, are very *much* less *dramatic* The following forms can be clinically distinguished:

A Neurogenic shock, either as a psychic phenomenon or following some injury.

B Traumatic shock produced by civil or military injuries or operative procedures,

C Following hemorrhage, this intensifies the vascular phenomena of shock in general,

D Hemolytic shock most commonly seen after transfusions of blood

E Toxemic shock

In all forms of shock other factors commonly enter the picture These include (a) the action of toxic bodies absorbed from traumatized and destroyed tissues, (b) the toxic effect of laked blood and (c) neurogenic factors The toxic effect of traumatized muscular tissues and of laked blood have been demonstrated in experimental animals In animal experiments, shock produced by traumatizing a limb does not appear until the tourniquet is removed, during World War I an English research committee found that traumatic shock did not occur in the dog if the vessels of the extremity were clamped before the injury was inflicted

The anatomic changes following hemolytic shock are especially interesting; in Malijsev's[29] patients and experimental animals there were the usual signs of hemolysis In addition, when death was delayed for any length of time, there were degeneration of the epithelium of the renal tubules and necrosis in the centers of the hepatic lobules According to Malijsev,[29] Skundina[42] and Elanskij,[16] such changes are not to be attributed to mechanical obstruction alone, but rather to an anemic condition of the organs, spasm of the capillaries and toxic action of the products of decomposition of hemoglobin

Hesse[24] and his school subdivided the mechanism of hemolytic shock into four parts, (1) nonspecific protein reactions of varying intensity, (2) hemolytic shock and its sequelae, (3) intoxication of the organism by denatured proteins occurring in preserved blood and (4) anaphylaxis

Petroff[36] and Ilyin[26] have shown that the toxic effect of heterogenous blood is related to its protein content The introduction of either erythrocytes or plasma into the blood stream of experimental animals is followed by especially marked toxic effect, the toxic substances being similar to the complicated protein components of adenosin phosphoric acid

According to Pannella,[33] shock is an anaphylactic state caused by absorption of albuminous material from destroyed tissues

Nervous factors in traumatic shock The observations of Slome and O'Shaughnessy,[43] Freedlander and Lenhart,[19] Blalock,[3] Ciccardo,[5] Swingle *et al*,[45] Eversole,[17] etc, lend support to the view that neurological factors have an important part in the causation and course of traumatic shock. The latter explains some of the apparently contradictory results obtained in experiments in which peripheral nerves or central pathways have been interrupted without influencing the onset and development of shock. Further, they introduce the new concept that certain neurological factors may not act to favor the development of shock but, conversely, to increase the resistance against circulatory collapse; their influence is thus much more complex than that which results from harmful nociceptive impulses.

Effect of destroyed tissues: Of the various forms of tissue, destroyed muscular tissue has the highest toxic potential. The studies of Wangensteen and Waldron[48] showed that pieces of the pancreas, the liver and intestines are the most toxic; renal tissue is relatively nontoxic; splenic tissue is intermediate in toxicity. Intestinal, pancreatic and hepatic tissue appear to disintegrate into toxic bodies more quickly than do renal and splenic tissue. The size of the autolyzing piece of tissue is also important, as Boyce and McFetridge[4] pointed out. The injected substances prepared from the various tissues (Andrews and Hrdina[1]) appear to be about equally toxic, except that there seems to be an early qualitative difference in the toxicity of the autolyzing tissue, in accordance with the rapidity of disintegration and liquefaction. With transplants of hepatic tissue, Mason and Nau[31] have noticed differences in accordance with the point from which the transplants are taken.

Helwig and Orr[22] emphasized resemblances seen in this anatomic picture to that observed in the presence of eclampsia. The bulk of the experimental evidence, however, shows that death is primarily due to a toxemia of maximum grade. The evidence shows that the toxin is produced in the process of autolysis of the implanted tissue in the experimental animal or the destroyed and/or necrotic tissue in the human being. According to Andrews and Hrdina,[1] the toxic agent is a water-soluble, thermostable body which is precipitable by alcohol or chloroform, stains purple in solution when the biuret test is used, is dialyzable only with difficulty and probably falls within the albumose group.

Important essential anatomical changes are noted in the liver and in the kidney:

1. The cells of the central and middle zones of the liver lobule show rarefaction so marked that the nuclei of the cells appear to be held in place by a lace like web. The cells of the peripheral zones have a fine, foamy appearance. The tissues of the portal canals are infiltrated with lymphocytes, endothelial cells and an occasional polymorphonuclear leucocyte. The infiltration is most marked around the bile ducts. The liver is the victim of what appears to be a rather acute and marked fatty degeneration plus a septic cholangitis.

2. The lesions in the kidney vary with the different fields. In some fields, the capillaries of the tufts and tubules are engorged with red blood cells, the tufts are swollen until they fill the subcapsular spaces, the tubular epithelium is swollen and the inner margins are frayed. The lumen contains granular debris. In other fields, the glomerular tufts are approximately normal in size, leaving a fair subcapsular space. The tubular epithelium shows some erosion, but also many of the cells show a brush like border. The kidney appears to be recovering from a rather intense, toxic parenchymatous nephritis, the cause of the condition seems to be still operating, though in lessened intensity, as is shown

by the areas of present, acute nephritis.

Burns: An outstanding example of the effect of destroyed tissue occurs in burns. The clinical facts and pathological anatomical changes in this form of thermal injury are as follows: there is an immediate intense systemic disturbance, customarily termed "shock." Death results either immediately or within the first twelve hours; it may occur after various grades of burns up to those of largest extent. Hyperpyrexia is frequently present. The initial period, in those who survive, is followed by a second period in which the clinical phenomena and laboratory data indicate a form of toxemia. Death also occurs frequently in this period.

The postmortem studies made by Agnes MacGregor[28] (one of Wilson's group) showed characteristic changes in the liver in cases of death after burns. Areas of necrosis occurred in the centers of the lobules of the liver, with fatty degenerative changes. The tubules of the kidneys also showed degeneration, but the changes were less severe and less constant than were those in the liver. In some instances, there were similar changes in the brain cells. In Weiskotten's[50] cases, hemorrhages occurred in the adrenal glands, and in Bardeen's[2] cases there was so-called focal necrosis in the lymphatic tissue.

According to Duval,[14] the clinical picture, the humoral changes and the local (cutaneous) and visceral lesions observed in the human being, when considered in the light of the results of animal experiments, lead to the conclusion that this phase of intoxication or toxemia is general and is due to absorption of toxic products formed in the burned area.

The manifestations in the first four days after a severe burn resemble greatly three other types of toxemia which physicians are beginning to understand, traumatic shock following severe injuries and the intoxications accompanying roentgen therapy or Curie therapy.

Similarity to the hepatorenal syndrome is striking. There are, first, the occurrence of death with hyperpyrexia in the first few hours after the reception of the burn, corresponding to the so-called liver death and second, death as a delayed phenomenon with the clinical signs of toxemia, corresponding to the deferred death following the hepatorenal syndrome.

In animals it has been found that repeated burns confer sensitization, which in turn confers a certain immunity or resistance toward burns.

HYPERPYREXIA *

A characteristic manifestation in most, if not all cases of exaggeration phenomena, is hyperpyrexia. Hyperpyrexia has been correlated with the concept of "liver-death." Such extraordinary fever occurs in many diverse conditions of which the following are examples:

1. Following operation upon the biliary tract;
2. Following resection of the rectum for malignancy (Crisp[10]);
3. Following interval appendectomy, hysterectomy or laparotomy for ovarian cyst (Connell[9]);
4. Following colostomy (De Courcy[12]);
5. Following resection of the cecum and in association with carcinoma of the pancreas with liver metastases (Boyce and McFetridge[4]);
6. Following release of an intussusception (Wilensky[53]);

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* Death in hyperpyrexia occurs also as a dramatic event in non-surgical disease, as, for instance, in medically treated thyrotoxicosis, in thymus death, in hyperacute forms of meningitis, etc. Except as they contribute pertinent facts to the subject of this communication, these are not included.

7. Following an exploration for obstruction of a Polya type gastroenterostomy;
8. After thyroidectomy;
9. After burns.

Cases of high temperature death are especially disconcerting. In these cases, one begins usually with a patient who is in good condition. Operation usually proceeds without any alarming occurrence. Then comes an immediate and progressive rise of temperature; disturbances of the sensorium quickly pass on to lethargy and coma; signs of excessive nervous irritability (carphologia and subsultus tendinum) appear; the patient is obviously very sick and then moribund and death occurs within from twenty-four to forty-eight hours.

At postmortem examination, the important findings seem centered in the liver and in the kidneys. The hepatic cells show signs of disorganization or beginning destruction; commonly the kidneys show some congestion; not uncommonly similar degenerative changes are seen in the renal cells. However, in many cases in which such symptoms were present before death, there were in addition evidences of infection (subphrenic abscess, subphrenic peritonitis).

For instance:

> A young man was admitted to the hospital with a diagnosis of "chronic appendicitis," and an appendectomy was done. During the next thirty-six hours, his temperature rose to well over 106° F.; there were marked signs of toxicity and death occurred. Postmortem examination showed peritonitis, distinctive but yet in an early stage of development and inconspicuous changes in the hepatic and renal cells.

The interrelationship of infection, hyperpyrexia, parenchymatous destructive hepatic lesions, hemorrhage and shock is a real one. Recently several cases reported by Thomas and Leiphart,[46] illustrate this very well:

In each of the cases, there was an onset with symptoms of a mild infection of the upper respiratory tract. Then there was a sudden, overwhelming exacerbation with symptoms of hyperpyrexia, diffuse hemorrhages in various parts of the body, shock and a rapid continuation until death about 36 hours later.

The pertinent anatomical changes found at the postmortem examination included hemorrhage, marked changes in the liver cells with similar changes in the renal tubular cells, and adrenal hemorrhage.

According to Thomas and Leiphart,[46] the syndrome of severe sepsis with hemorrhagic phenomena is found in cases in which the meningococcus is the etiologic agent. Adrenal hemorrhage is thought to be merely part of the generalized bleeding diathesis and is not concerned *per se* with the rapid death. The status of the thymolymphatic system plays no part in adult cases.

Bacterial allergy: Allergy occurs in a large number of bacterial and parasitic infections and can be demonstrated by skin reactions which are specific only for some; it is probably caused by some cellular protein substance or by the products of cellular metabolism. Even though the reaction is frequently a nonspecific one, the evidence suggests that, with chemically pure antigens, specific allergic reactions would be obtained much more frequently.

COMPARISON OF EXAGGERATION PHENOMENA TO ANAPHYLACTIC AND/OR ALLERGIC CONDITIONS

Physiology and pathology of anaphylactic reactions: In laboratory animals, anaphylactic shock produces somewhat different results in accordance with the species of animal. That which most closely approaches the human form, is found in the dog.

Weil (1917)[49] found that in dogs dying within one hour, the liver dominates the pathological picture The organ is tremendously enlarged Its color is intensely cyanotic and the cut surface bleeds freely Mechanistically, spasm of the hepatic venules (Simonds, 1923)[40] is followed by markedly increasing engorgement of the liver and collapse of the inferior vena cava with a concomitant rise in portal blood pressure, cardiac failure and hemorrhage from the bowels The pancreas, suprarenals, kidneys and spleen may show congestion Microscopic section corroborates the changes in the liver Besides intense congestion, the parenchyma cells show varying degrees of congestion and hemorrhage, cloudy swelling, and if the shock is severe, a disseminated necrosis The hepatic lesion and its consequent effect is *accompanied by alterations in* the coagulability of the blood and other evidences of altered hepatic function

The observations of Manwaring (1910),[30] Voegtlin and Bernheim (1911),[47] Deneke (1914),[13] Weil[49] and Simonds (1925)[41] seem to confirm the fact that the postmortem appearances correspond in general with those of surgical shock and that exclusion of the liver in experimental animals eliminated the shock altogether

There is evidence in addition that man may die from a canine form of anaphylactic shock, which was suggested in the case report of Gurd and Roberts,[20] proved by the classical case of Dean[11] and by the case of Bullowa and Jacobi[7]

Because the liver seems to contain the greatest amount of injury at postmortem examination, Weil[49] was convinced that anaphylactic shock is a cellular reaction and not a humoral one, because there is no demonstrable toxic substance in the blood during anaphylaxis and because the site of the reaction is the parenchyma cells of the liver The other demonstrable changes, due to their relatively minimal characteristics, are without doubt secondary to the liver effect

The many theories that have been voiced to explain this phenomenon include an increase in the products of protein disintegration, increased mobilization of proteolytic enzymes, reduction in blood platelets, diminution of thromboplastin, excess of antithrombin, decreased fibrinogen, decreased prothrombin, increased amount of heparin, histamine intoxication and other items The interesting thing is that the common denominator of all of these is anatomical and/or functional *changes in the liver parenchyma*

Physiology and pathology of allergy The phenomena of allergy in general have a basis similar to that seen in the anaphylactic reaction In the anaphylactic cases, the basis is *acquired artificially by injection*, in allergy, the basis is a tendency acquired naturally by inheritance and is not directed to any specific antigen In anaphylaxis, definite precipitins have been demonstrated in the blood, Prausnitz and Kustner[36] have found specific bodies in the serum of allergic individuals

In clinical practice, the potential allergic tendency is brought to its active stage by a specific antigen, the subject then becomes sensitized The available antigens are legion in number and include, most commonly, protein bodies and, less commonly, other organic substances and drugs, and many other materials Even physical conditions, such as cold, heat and light may be responsible, the importance of emotional factors acting along neurological pathways is very great The failure to produce allergic responses is undoubtedly due, in these naturally acquired tendencies, to equally naturally acquired tolerances and to a time and quantity relation

In anaphylaxis and/or in allergy, the term "shock" indicates the sum total of all the phenomena elicited by sudden exposure to stimuli to which the organism is *quantitatively or qualitatively not* adapted. This is Selye's [39] conception of the "alarm reaction." This conception is most interesting and offers some explanation for the exaggeration phenomena. He divides the entire symptomatic and biological complex as follows: the first stage of these phenomena is the "alarm reaction," the manifestations in this stage representing and indicating danger or "shock" and signs of active defense. The second stage is the stage of resistance. Sometimes the signs of the first stage are missing because the stimulus is not sufficiently strong or sudden and only counter-shock phenomena (i.e., the signs of the second stage) become evident. The third or final stage is that of exhaustion.

During the counter-shock or second stage, there is increased resistance especially marked to the evocative stimuli, but there is also "cross-resistance" to other damaging agents. In other words, this experience confers a certain amount of nonspecific resistance and is probably related to nonspecific therapy.

The pathological changes which Selye [39] notes in these alarm reactions are also common to anaphylactic and/or allergic conditions. These are as follows:

1. *The liver:* Interest centers in the prevalence of an hepatic degenerative parenchymatous lesion. The liver "shows cloudy swelling and decrease in size which may be accounted for by decrease in blood volume. It may, however, show more extensive degenerative changes with focal necroses sometimes accompanied by intense fatty infiltration which Leblond [27] and his associates consider to be typical symptoms of the alarm reaction belonging to the group of changes which are prevented by adrenalectomy."

In various conditions, the localization of the cellular degeneration in the hepatic lobule has varied from the center of the lobule to its periphery. This may be an accidental distribution of the action of the causative toxic body; it may depend on other circulatory changes or it may be of no biologic importance. The essential fact, however, is that degeneration of hepatic cells does occur. In clinical practice, a breakdown can take place in persons whose hepatic structure and function had previously been apparently normal, or, perhaps more probably, in persons in whom some hepatic damage had already existed as a fully recognized or as a suspected or unsuspected latent condition.

2. *The thymus:* Selye [39] describes very conspicuous changes in the thymus during the alarm reaction which he calls "accidental involution" and which become most pronounced during the counter-shock (second) stage. It seems to be related to the hypertrophic changes in the adrenal. Removal of the adrenals prevents the involution of the thymus.

3. *The adrenals:* The adrenal reaction is characterized by hypertrophy. This is described as a specific result of burns, infectious disease, drug intoxication, ultra-violet ray treatments, etc. In the counter-shock or second stage period, the adrenal cortical hormone plays an important part and distinct counter-shock phenomena do not appear in experimental animals in the absence of the adrenals.

4. *The hypophysis:* The hypophysis is obviously involved since increase of adrenotropic hormone is necessary to produce the characteristic cortical hypertrophy. The thymus involution effect is also controlled by the adrenal cortex.

Other anatomical changes are frequently noted (Selye[39]). They have a rather wide distribution, are commonly seen in other pathological states and conditions, and, possibly, they should be excluded from this discussion as being either not important or of no relation to the subject.

5. *Pancreas:* acute involution;
6. *Gonads:* atrophy;
7. *Blood:* changes;
8. *Gastrointestinal ulcers:* similar to erosions in shock, or following burns, or solar intoxication or low oxygen tension;
9. *Lymph nodes* and *spleen*—as markedly affected as thymus;
10. *Pulmonary hyperemia.*

Physiologically and functionally the basal metabolism is decreased. The blood sugar first rises, then falls, later rises again when protective measures appear. There are changes in the lactic acid and lipid metabolism; lipids appear suddenly in the liver. The latter, with decrease in the blood clotting time, seem to indicate important changes in the liver physiology. There is an immediate discharge of adrenalin associated with loss of chromaffin granules.

The exact cause is still in doubt. Most workers believe that a toxic metabolite is released from the damaged tissues into the blood stream and acts as the mediator. Probably this is brought about by a second mediator—*not always the same*—which causes the release of the other toxic metabolite. Much work points to histamine as the possible causal agent in this first body, irrespective of the evocative cause. Other theories include acapnia, fat embolism acidosis, constriction of the hepatic vessels and nervous exhaustion. All of these, however, are probably symptomatically incidental in the total disturbance to the essential cause and mechanism.

This alarm reaction or theory furnishes a satisfactory explanation for similarities in the clinical symptomatologies of numerous clinical conditions in which these phenomena appear.

Increased resistance in the countershock stage involves a power of adaptability. During the resistance stage, when the organism acquires a high degree of adaptation to the evocative agents, it becomes especially unable to adapt itself to other damaging agencies. Adaptability is therefore limited and is recognized by the phenomena of the stage of exhaustion, when the evocative agent becomes damaging again.

The "adaption energy" concept of Selye[39] is important because it helps us to understand the basic operation of the protective mechanisms and their eventual exhaustion, so that untoward, unpredictable and unexpected phenomena appear.

SUMMARY AND CONCLUSIONS

Exaggeration phenomena occur in many diverse conditions with some modification in results in accordance with the site of the essential organ involved. Otherwise, the symptomatology follows a rather similar pattern. The demonstrable pathological-anatomical changes are very similar and correspond fully with those seen in anaphylactic and/or allergic disease.

In applying all of this factual knowledge, it appears that the production mechanism of the exaggeration phenomena is essentially that of the Arthus phenomenon. Over many years, sensitization of the individual and counter-protective measures are built up concomitantly; and, because the individual evocative cause in each experience is very small and not suddenly applied, all of this is unrecognized by the individual or his physician. It must surely be also true that some form of latent hepatic or other disease is eventually present also.

The alarm conception of Selye[39] helps in understanding the development of the disturbances, the initial attack (first stage), the stage of defense and resistance (second stage), and, ultimately, the stage of exhaustion Because of their constantly found association, the liver changes seem of great importance, especially since they are frequqently of a latent character, and there also are other changes in the thymus, adrenal, etc

Comes then an unusually powerful evocative stimulus—an operation, a delivery or the like Exaggeration phenomena follow unexpectedly The immediate cause for the appearance of the latter is the unusual intensity and suddenness of application of the evocative cause, which is much more than the protective capacity of the individual is equal to Under such conditions, the first (danger or shock) stage, and the second (counter shock) stage, are passed through with extraordinary rapidity, the third stage (stage of exhaustion) is reached, bringing with it collapse of all protective functions and activities with quickly overpowering effect Not many "make the grade" then In the others, a fatal termination ensues

The evidence seems overwhelmingly in favor of the concept that exaggeration phenomena must be classified, at least as far as their pathogenetic mechanism goes, with the anaphylactic and/or allergic group of phenomena

SOMMAIRE ET CONCLUSIONS

L'exageration de phénomènes survien avec certaines modifications determinées par l'organe essentiel lésé Les changements pathologiques et anatomiques ressemblent et correspondent à ce qu'on observe dans l'anaphylaxie et l'allergie

Dans le cours des années, la sensitization de l'individu, et aussi des mesures contre protectives se dévelôppent dans l'organisme concurremment En presence d'un excitant evocatif très puissant telles qu'une opération, un accouchement, une brûlure etendue une exageration des phenomènes surviendra inopînement La conception d'alarme de Selye nous éxplique cela Selye décrit trois stades de derangement, l'attaque initiale, la défense et la resistance et vers la fin l'epuisement Un excitant violent peut faire passer les deux premiers stades presque inapercus le troisieme peut revêtir l'image du choc chirurgical L'auteur nous dit que le foie est premièrement et tres evidemment attaque, dans ces reactions que ces reactions soient fatales ou non

RESUMEN

Los llamados fenomenos de exageracion ocurren en diversos estados patologicos, con algunas variaciones de acuerdo a la localizacion del organo esencialmente afectado Las modificaciones anatomopatologicas demostrables son muy similares y corresponden a las observadas en las afecciones anafilacticas y enfermedades alergicas

Con el transcurso de los anos se produce la sensibilizacion del individuo y conjuntamente la instauracion dentro de su economía de procesos defensivos y protectores, ahora bien, si se presenta un estimulo extraordinario, tal como operacion parto o quemaduras graves, entonces, de un modo inesperado puede producirse fenómenos de exageracion Ello puede explicarse por el concepto de "alarma" de Selye, quien describe tres fases de alteración el ataque inicial, la defensa y resistencia y, finalmente, el agotamiento Un estimulo demasiado violento puede hacer que los dos primeros periodos de esta triada pasen

desapercibidos y se entre directamente el el tercero o fase de colapso, semejando el cuadro del "shock."

El autor observa que el hígado muestra signos de ser el órgano que primero y más fuertemente se afecta en todos los tipos de reacciones, ya sean fatales—como ocurre generalmente—o no.

Свод и заключение

Феномен преувеличенной реакции встречается в различных условиях, и его модификации зависят от локализации вовлеченного органа Демонстрированные патологическо-анатомические изменения очень подобны и соответствуют изменениям, наблюдаемым при анафилактических и аллергических болезнях.

В течении лет совместно накопляются в организме индивидуальная сенситизация и противо-защитные меры; затем случается необыкновенно сильный вызывающий стимул, как операция, роды или сильный ожог, и неожиданно следует феномен преувеличения Это можно объяснить на основании концепта тревоги по теории Selye, который описывает три стажа расстройства первоначальную атаку, защиту и сопротивление и, наконец, истощение Очень сильное возбуждение может заставить первые два стажа пройти так быстро, что они почти незаметны, и тогда третий, стаж изнеможения, дает картину "шока"

Автор наблюдает, что во всех этих реакциях печень дает доказательства ее первичного и очень сильного вовлечения, независимо от того являются ли эти реакции смертельными или нет

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PENICILLIN IN UROLOGY

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PATIENTS with infections of the urinary tract are especially blessed by the discovery of the "sulfa" drugs and penicillin. Both agents exert *a two fold effect in this area, first, by* action through the circulation on the tissue of the tract, and second, on the urinary mucosa by their presence in the excreted urine. In previous years, our efforts at sterilization of the urinary tract, when compared with modern methods, were indeed feeble. The agents formerly administered—with the exception of neoarsphenamine—administered intravenously, worked solely through surface action, which in turn was limited by dilution and hydrogen ion concentration. Urotropin, caprokol and *mandelic acid* were useful, but for maximal benefits required strict limitation of fluids and acidulation of the urine which was difficult, if not impossible to attain in some patients. Nevertheless, these latter three drugs have a definite place in the treatment of urinary infections and must not be entirely relegated.

In treating infections of the urinary tract, one cannot logically divorce "sulfa" drugs from penicillin, because the one augments the other, due to the fact that most such infections are of a mixed character. Oftentimes the sulfa preparation is effective where the penicillin is not and vice versa. Even where the offending organism is susceptible to both, the combined treatment results in greater potency, and the "sulfa" may be continued alone where a prolongation of antibiotic action is desirable to prevent recrudescence of the infection.

In determining the choice of drug and its probable efficacy, the gram stain is most important. It has a much wider range of applicability than cultures because of its simplicity, reliability and time saving. A gram stain carried out promptly after the aseptic collection of urine gives one a more accurate appraisal of the number of organisms and the proportion of different types than does the culture. After 24 to 48 hours the latter may very well record a disproportionate growth of organisms which actually represent contamination or play a very minor part in the infectious process. The cultures and subcultures, of course, do differentiate *more precisely the particular classification of organism. This refinement is* necessary in some instances in order to master the various infections by applying the most specific agent. However, for routine use, the gram stain is a more useful guide, because the effectiveness of both the sulfonamides and penicillin have now been quite exhaustively worked out on the basis of their *action on gram positive and gram negative organisms.*

Fortunately, there are very few of *the common infections of the urinary* tract which are not susceptible either to penicillin or to the sulfanilamides. Notable among those resistant to these drugs are streptococcus fecalis, certain strains of bacillus coli, aerobacter aerogenes and proteus ammoniae. For comparison in susceptibility, staphylococcus aureus is inhibited with a concentration of 1/30 of a unit of penicillin per cubic centimeter of urine, the staphylococcus fecalis requires 3 units, the proteus ammoniac 8 units, and some of the strains of B. Coli are not affected until a level of 30 units or more per cc. is reached. This concentration would practically rule out penicillin as a means of treating these infections. The normal kidney is able to excrete about 60 per cent of injected penicillin. If 100,000 units are injected in a day and 2,000 cc. of urine excreted, the urinary concentration of penicillin would average 30 units per cc., but there would be periods when it would exceed this level, while at other times the level would fall well below. The relatively brief period of administration of penicillin covering a period of from one to three or four days places a limitation on its usefulness. Attempts to overcome the necessity for the frequent, " 'round the clock," intramuscular injections of penicillin are being carried out with the injection of penicillin in oil, in a combination of oil and wax, and by oral administration with a slowly dissolving coating to retard absorption. I myself am experimenting with pellet implantation of penicillin, which gives promise of overcoming the need for frequent injections.

Now that ample supplies of penicillin have been liberated, its true place in the treatment of these infections will soon be established. No doubt many new applications will be found in the treatment of postoperative sepsis in which the bacteriology is difficult to demonstrate; also in many of the commoner types of infection occurring with obstructive lesions.

PENICILLIN IN ORTHOPEDIC SURGERY

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Any study of the application of chematherapy to bone infection should be made in the knowledge of the kind of bone infection involved, bacterially and histologically. The bacillus of tuberculosis, the pyogenic organisms, the fungi, parasites and the spiracheta pallida are all at one time or another the exciting agent in this phenomenon. Histologically I recognize four general forms or patterns of bone infection.

To clarify our concept of the bone tissue phenomena and to rationalize any type of treatment of osteomyelitis I shall designate by a brief outline four forms. The term osteomyelitis is generally used to include all infections of bone. I believe this blanket term lacks specificity of definition and is inaccurate when applied to some common bone infections. The outline given, differentiates the various types:

1. Acute diffuse hematogenous osteomyelitis of immature bone, i.e., a bone with an actively developing epiphysis;
2. Focal punctate necrosis of bone due to a punctured wound;
3. Septic necrosis of bone occurring in infected compound fractures by contiguity to the process in adjacent soft tissues or by proximity to neighboring suppuration in soft tissue;
4. Chronic generalized suppurative osteomyelitis; the sequel to form 1 when inadequately treated.

Form 1 occurs frequently fatally in children, not because of the toxicity of the pathogen but of the rigidity of the tissue environment and its peculiar reaction. In the substance or neighborhood of the growing epiphysis, the blood borne agent finds lodgement in a highly vascularized region of almost static fluid movement, in a locality of rapidly dividing, immature, low resistance bone cells, surrounded by an inelastic, rigid stroma and bathed by serum and debris of traumatized vessels and cellular tissue The reaction can be, and sometimes is, explosive The internal pressure set up is intense and destructive, it feeds upon the products of its own destruction and from within outwards The adjacent congestion and stasis is in proportion Fluid exchange is seriously embarrassed or may be practically nonexistant The pain may be shocking unto death, or the host may tolerate progress until, through pressure atrophy, the tumor bursts the cortex The change then is immediate and dramatic but benign The pain ceases, shock disappears and the patient falls into an exhausted restful sleep Another calamity is now initiated (Form 4)

Form 2 By the nature of its cause, there is provided a canal or channel of egress The phenomenon of form 1 does not and can not ensue However, a favorable environment for clostridia is provided Usually the focus is early walled off and drainage occurs through the puncture wound itself

Form 3 Here we have the phenomenon of a substance partaking of the conflagration by contiguity though not of itself particularly combustible This form does not and cannot simulate the histopathology of form 1

Form 4 If the expanding tumor of form 1 bursts beneath the periosteum, the first stage of chronic suppurative generalized osteomyelitis ensues The virulent escaping pus dissects distally between the enclosing and expanding periosteum to penetrate anew through the numerous Haversian canals into the cortex and substance of the bone, until eventually the whole shaft is honeycombed This stage burns itself out presently and with little systemic cognition There is great bacterial activity and tissue necrosis, but there is no pressure

In the light of the above exhibits, methods of counter attack may be compared

Form 1 The great pain and shock are due to pressure phenomena and not to the virulence, toxicity or large number of pathogens Their number is infinitely larger in the first stage of form 4, in which there is immediate and continued relief with cessation of pain and shock Because of the relative localization of the focus and the surrounding congestion, chemotherapy is limited and retarded in its action The simpler and more positive procedure would seem to be the relief of pressure if (and it is so) a small drill hole into the region will provide such relief Any more elaborate or mutilating operation is not only not necessary but is contraindicated

Form 2 Debridement with wide opening of the puncture is physically indicated and adequate

Form 3 Adequate debridement and sufficient treatment of the fracture has been invariably satisfactory in my series, by sufficient treatment of the fracture, I mean perfect and continued immobilization

Form 4 This is the sequel of form 1 unsuccessfully treated After the first stage of the chronic form, we have burned out debris of a generalized destruction, lurking, attenuated, dormant bacteria, sequestrae and chronic, subacute, draining sinuses It is the sequestrae now, not the attenuated (or frequently absent) bacteria, acting as foreign bodies, that continue the sinuses They may become residual, adventitious channels with permanent specialized linings. The problem here is evidently mechanical and physical, not bacterial.

What, then, is the case for penicillin in bone infection? There is accurate information of the efficacy of this extraordinary agent against various organisms. Against some where it can reach them, it is marvelously lethal; against some, under even the most favorable auspices, it is important. In those cases of bone infection in which the offending pathogen is susceptible to penicillin, it should be used to supplement known tried and logical mechanical (i.e., surgical) procedures but never as a substitute for them.

PENICILLIN IN OPHTHALMOLOGY

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Abstracts from the literaure are important and informative, but reports from personal observations may be more interesting. Here is a case in point:

A girl of 8 years had unilateral keratitis, vascularization and hazy cornea. Lacrimation and blepharitis were severe and the pupil would not dilate with atropine. Teeth and general examination did not reveal evidence of inherited syphilis. Records, however, showed that the mother had been treated for lues some years before. The child was sent to the hospital and after 100,000 units of penicillin were injected, the pupil could be dilated with atropine. She received injections of 10,000 to 15,000 units every 3 hours until a course of 1,000,000 units had been used. Lacrimation and blepharitis ceased on the second day of penicillin treatment. The eye was entirely cleared, with devascularization and only one hazy spot remaining in the cornea.

Although the eye had cleared, the injections were repeated again after a period of 4 weeks.

Another case illustrates a different method:

A nurse at the hospital was unable to continue on duty. due to severe conjunctivitis. There was profuse discharge and the lids stuck together. The residents had used argyrol and zephiran. Sulfathiazole ointment was tried and discontinued. as it was irritating. The smear showed diplococci.

Penicillin was dropped in the eye every hour, while she was awake. The solution was 250 units per cc. in saline. Treatment was begun in the afternoon and marked improvement was noticed the next morning. Treatments continued the next day, the drops being used every two hours. Treatment was continued in this way for two days longer after which the eyes cleared and no further treatment was necessary.

Dunnington-von Sallmann[1] report on iontophoreses (i.e., cataphoresis as the introduction of ions by the electric current). This technic is not described. Also they report "Corneal ulcers were successfully treated with penicillin sodium in 0.5 per cent concentration, in an ointment base composed of anhydrous wool fat, with 10 per cent liquid petroleum, applied at 3 hour intervals. There was immediate relief of the symptoms. The ulcer healed in 5 days."

"Staphylococcic infections of the vitreous were arrested with a single injection of penicillin when administered within 12 hours after inoculation. Treatment failed when a period of 24 hours was allowed to elapse between inoculation and the therapy."

Le Moine and Le Moine[2] report a case of purulent conjunctivitis with a positive culture for hemolytic staphylococcus. The infant, age 25 days and six weeks premature, was treated for 15 days by irrigation with boric solution followed by 5 per cent sodium sulfathiazole solution Sulfathiazole was given orally, 2 grains every six hours This regime was followed for three days with no improvement Penicillin treatment effected a cure within five days The solution was sodium penicillin in normal saline, containing 700 Florey or Oxford units, 2 drops every hour after boric irrigation

As all forms of gonococcic infection succumb to penicillin, as does gonorrheal ophthalmia

My personal experience with penicillin in otolaryngology is limited to consultation and discussion of its use by other colleagues They report a case in which a child survived meningitis of otic origin through the use of penicillin therapy and a mastoidectomy I would consider penicillin a useful adjunct in meningitis and brain abscess to be used following surgical drainage when that is indicated In cases where the involved area is inaccessible, such as cavernous sinus thrombosis,[3] reports in the literature are encouraging[4-6]

I have seen many patients who have been told they had a "strep throat" I have noted more rapid healing under sulfa therapy than from our former methods Sulfathiazole was the drug I used Now that penicillin is readily available, I may try it as a frequent spray

Crowe and Ward[7] refer to an allied agent, tyrothricin As this comes to us in an alcoholic solution, its application is limited However, it has become the therapy of choice with me in numerous cases of furunculosis of the external auditory canal, and the frequently accompanying eczematous condition of the auricle *After dry cleaning of the* canal and auricle (especially if an ointment has previously been applied) I saturate a fourth inch gauze with penicillin and instruct the patient to allow this to remain until I change it the following day The effect is not so good when the patient removes the gauze or slips a day I am under the impression that healing would be hastened if the applications were made twice in twenty four hours As fresh gauze is more effective, I have not suggested home treatments

While I am wary of operating on the upper sinuses in the presence of an acute infection, I favor puncture and lavage of the maxillary sinuses Drainage of the antrum is followed by prompt relief and cure, even if the source was primarily from the ethmoids Our usual conservative methods of nasal drainage are successful and less disturbing than intramuscular injections of penicillin

PENICILLIN IN DISEASES OF MOUTH, JAWS AND FACE

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In diseases of the mouth, jaws and face, penicillin plays a very important part in control of infections However in perimaxillary phlegmons and Ludwig's angina drainage must, of course, be considered

In my practice, I find it advantageous to control infection by using sufficient dosages of penicillin and applying hot compresses to localize the diseased area In many of these cases, the temperature drops to normal after the use of peni cillin. The localized swelling is then drained and the wound washed with sulfathiazole and tube drainage inserted. Under this form of treatment patients make remarkable progress.

In the treatment of compound fractures where it is necessary to do an open reduction, the bones are placed in their normal position and, before closing the wound, sulfathiazole in suspension, is applied. The patient is then given penicillin postoperatively in doses up to 100,000 units per day for two or three days. Practically all cases under this form of treatment go on to normal healing.

Since the results have been so promising, I now make it a routine practice to use penicillin postoperatively in all cases where it is necessary to operate and one has to deal with infections. In cases where there is reconstructive work, such as on the nose, lip, palate, etc., I also recommend penicillin postoperatively.

The reaction is practically nil. However I had one patient who had been suffering from an osteomyelitis of the mandible in whom it was necessary to do a sequestrectomy and immobilize the jaw. This man was given penicillin in doses of 5,000 units every four hours for three days. His temperature dropped to normal but he deevloped urticaria. This cleared up after the penicillin was discontinued.

PENICILLIN IN ABDOMINAL SURGERY

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Abdominal cases treated with this agent have been few in number as evidenced by the meager number reported in the literature.

An article in the *Journal of the American Medical Association* for December, 1943, upon "Penicillin Therapy of Surgical Infections in the U. S. Army" reported several cases, among these a case of appendicitis, one of subphrenic abscess and one of peritonitis (of unknown cause).

In the conclusion of this article the statement was made that the agent could be administered in various ways. I have found penicillin to be an effective antibacterial agent in the treatment of acute infections caused by staphylococci, hemolytic and non-hemolytic streptococci, mixed infections due to gram positive bacteria and actinomycosis. The gram negative diplococci are susceptible to treatment but gram negative bacilli are resistant. Mixed infections with both gram positive and gram negative organisms may be benefited through the effect upon the susceptible species.

Lockwood presented an article in the *Annals of Surgery* for September, 1944, "The Use of Penicillin in Surgical Infections," in which he stated that in peritonitis, it was only possible to study a few cases. "Less certain would be the results in infections developing after appendicitis including pylephlebitis and perihepatic infections."

A case of acute appendicitis was reported in the *British Medical Journal* for November 4, 1944, which affected a male aged 4 years and 11 months. The temperature was 101.8° F., pulse, 136. This case was operated upon in the afternoon. The appendix was perforated in its middle portion. The organisms were hemolyticus, staphylococci and gram negative diplococcus. Penicillin was applied directly through the drainage tube for a period of forty-eight hours. Fourteen injections were made, 200,000 units administered. Recovery ensued

Finally an article by Lt. Commander G. B. Fouley, M.C.V. (S), USNR, in the *Journal of the American Medical Association* for December 30, 1944, upon "The Use of Penicillin in the Treatment of Peritonitis" in an experiment upon a dog stated "should prove to be of some benefit to man."

Your attention is invited to the several brochures upon penicillin recently issued by E. R. Squibb and Sons, New York. The brochures present the uses and limitations of this agent.

My own personal experience is limited to but two cases, one of which was an empyema of the gall bladder, subjected to a cholocystectomy and the use of penicillin, with recovery. The second case, I report in more detail.

The patient was a school girl, aged 14 years, who was seized with an attack of acute appendicitis in the early morning hours The patient was seen in consultation with my associate in our office about 2 o'clock in the afternoon An appendectomy was performed through a gridiron incision The appendix was acutely inflammed elongated and covered with lymph No difficulty was encountered in the operation The patient was returned to bed in good condition I did not see her the following morning However, my associate informed me her condition was excellent

The following day she was not seen by either of us The hospital authorities would have advised me of any abnormality in the patient's condition At noon, almost forty eight hours after the operation, she was inadvertently given a large meal with no untoward effect Also the afternoon of that day she had many visitors In the evening a generous meal was again given with no apparent ill results

About 10 o'clock the following morning, the patient was seized with pain in the upper abdomen accompanied by frequent intestinal evacuations There was no nausea or vomiting Her temperature rose to 103° F The patient was examined by me the following morning The temperature had dropped to 100°; the abdomen was not distended and not unduly tender Penicillin, 100,000 units daily was administered intravenously with glucose solution

The next day a whole blood transfusion (500 cc) was given, which was repeated on the following day

Two days later a tumefaction of the lower portion of the abdomen appeared The abdomen was reopened in the original wound and drained of 250 cc of dark fluid with a fecal odor A drainage tube was inserted The patient seemed materially to improve for three days after which pronounced elevation of temperature, tympany and lethargy occurred, with death following some twenty four hours later Autopsy revealed the appendiceal stump open, through which leakage of intestinal contents had occurred (ligation of stump with two tier inverting sutures had been employed) with several small "lakes" of septic fluid and peritonitis present

Intestinal contents are complex and many gram negative organisms may be present. It is my opinion, therefore, that penicillin is just another valuable agent at the disposal of the physician or surgeon to use in septic conditions involving the abdominal cavity and viscera.

DISCUSSION

Karl Schlaepfer, F.I C.S , Milwaukee: I agree with Dr. Marshall that penicillin is inferior to sulfathiazole and particularly succinylsulfathiazole in intra-abdominal surgery involving the intestines, where contamination through the intestines may result The bacterium-coli group, the main cause for such infection, arising after this type of surgery, is not amenable to efficient bacteriostatic or bacteriocidal action by penicillin A thin layer of sulfathiazole powder uniformly spread over the suture lines in gastric and small intestinal surgery as well as following appendectomy, has proved very successful. However, caking of the powder, due to uneven application, may cause extensive scar formation, from injury to the serosa, with resulting kinking of a loop of intestine and possible ileus. In large bowel surgery, thorough pre- and postoperative oral administration of succinylsulfathiazole has also been very effective.

Due to the prominent space given penicillin in the lay press with many unwarranted claims, the danger is great that we may see a similar boom in the use of penicillin as experienced in the vitamin field. This would prove advantageous to the manufacturers at the expense of the patients and detrimental to the reputation of our profession.

SUMMARY

The remarks of five speakers, only a portion of those who participated in this symposium, are included in this report. The use of penicillin in urology, orthopedic surgery, ophthalmology, abdominal surgery and in diseases of the mouth, jaws and face, is discussed by specialists in these branches. Although each speaker's time was limited to 10 minutes, each gave a clear indication of his experiences and opinion.

The concensus appears to be that, while valuable, the virtues of this new preparation have been decidedly overblown by the popular press. One specialist likens public reaction to this, to the earlier furore over vitamins.

SOMMAIRE

Cinq orateurs prirent la parole. Dans ce rapport ne sont inclus que quelques observations. L'emploi de la penicillin en urologie, en chirurgie orthopédique, en ophthalmologie, en chirurgie abdominale et dans les maladies de la bouche, des machoires et de la figure fut discuté par des spécialistes, de ces différentes branches de la médecine. Chaque rapporteur fut limité à dix minutes et chacun donna une indication très lucide de ces recherches et une expression précise de ses vues.

La penicillin quoique possédant une grand valeur néanmoins n'est pas une panacée. On peut dire autant des vitamines.

RESUMEN

Aquí se resumen las afirmaciones de cinco de los expertos que tomaron parte en una discusión sobre la penicilina. El empleo de esta substancia en urología, ortopédica, oftalmología, cirugía abdominal y en las enfermedades de la boca, mandíbula y cara, fué analizado por especialistas en estas diversas ramas. Aun cuando el tiempo otorgado a cada orador fué limitado a sólo 10 minutos, todos ellos hicieron una exposición clara de sus experiencias y opiniones.

En general todos parecen estar de acuerdo en que aun siendo esta substancia un medicamento muy valioso, su utilidad ha sido grandemente exagerada por la prensa popular. Uno de los autores compara esto a lo ocurrido con el furor que siguió a la iniciación de la terapéutica con vitaminas.

Заседание о пенициллине.

Свод.

Здесь включены заметки только пяти из многих докладчиков принявших участие в обмене мнений. Обсуждено разными специалистами применение пенициллина в урологии, ортопедической хирургии, офтальмологии, хирургии живота и болезнях рта, челюстей и лица. Хотя каждый докладчик был ограничен десятью минутами, каждый указал свой опыт и мнение.

Было создано общее впечатление, что хотя этот препарат является очень ценным, его значительность невероятно преувеличена популярной прессой. Один специалист приподобил реакцию публики к фурору, причиненному витаминами.

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(Continued from page 303)

In many of these patients under our observation, studies of the hemotacrit readings, albumin-globulin ratios, blood counts, blood pressures and many other details were noted, not all particularly relevant to this discussion. It is our purpose to emphasize several well known facts, namely that many patients are subjected to operation while deficient in protein and lose protein throughout their convalescence. In the poor risk patient, this becomes a matter of major importance, and hypoproteinemia should be considered a possible complication; nitrogen balance should be maintained by alimentation through natural channels or parenterally with adequate proteids, and glucose.

SUMMARY

From our experience and that of other observers it is apparent that a considerable number of patients enter hospitals and submit to operations with a plasma protein level below normal and during the week following operation, they are in negative nitrogen balance, which is equivalent to stating that the patient is using up his body proteids. If a balance can be maintained, the patient's ability to recover is definitely enhanced, and the period of convalescence is shortened. Nitrogen balance cannot be maintained by the administration of glucose and saline solutions alone. If the patient can ingest and assimilate sufficient food, this takes care of the problem; if, on the other hand, feeding is inadvisable or impossible, recourse must be had to parenteral feeding.

From recent clinical research in this field we can state that we can maintain nitrogen balance, not with amino acid solutions alone, but by a combination of protein solutions and glucose in saline. We know that 60 to 100 gms. of protein and 100 to 200 gms. of glucose intravenously, will maintain most postoperative patients in positive balance, unless liver damage is present. The addition of selected vitamins is also recommended.

(French and Spanish summaries of this material will appear in the next issue)

Свод

Аминовые кислоты.

Обсуждена важность для преоперативного больного аминовых кислот Подробно разобраны причины дефицита в азотном равновесии тела во время и немедленно после операции Дан способ приготовления подходящей для внутривенозного вливания формы матерьяла Разобраны реакции в серии трехсот оперативных случаев.

Rehabilitation in the Navy[*]

CAPT. HOWARD H. MONTGOMERY (MC), USN

As one reviews the history of the care of casualties during previous wars, it is found that our government has called upon the medical profession to provide the best care and attention for the sick and wounded that its knowledge and skill afforded at the time. The profession has wholeheartedly assumed the responsibility placed upon it and, in meeting this responsibility, discoveries and advances have been made which have had profound effects upon medical practice for years afterward. The efforts of the medical men in the fighting forces have had the humane objective of alleviating pain and suffering, and restoring the disabled as nearly as might be to normal. They have also had the practical objectives of returning men to the fighting ranks as rapidly as possible, in order to retain the services of trained men—and to minimize, as far as possible, the extent of the disability in those who could no longer serve. On the whole, medical care provided for men in the Armed Forces has been of high quality and adequate.

Unfortunately, however, the records do not show the same success in providing assistance toward a satisfactory adjustment to civil life for those who were discharged for physical disability. Apparently little, if any, organized effort was made while they were in the service, to impress upon them that, although handicapped they were not disabled, or to guide them toward profitable employment compatible with their handicaps. Social and economic rehabilitation were treated largely as matters to be worked out by the men themselves after they returned to their home communities. This probably added materially to the problems of readjustment of the country to peacetime conditions and certainly made the lot of the individual veteran most difficult.

In the light of the past, our course under present conditions seemed clear. We must make very sure that the men of the Navy and Marine Corps receive the best medical and surgical care and attention that present day knowledge and skill afford. We must see to it that every man possible is restored to health and returned to duty as rapidly as may be, within the precepts of good medical practice. We must do all we can while the disabled are under treatment to assist them toward a proper adjustment to civil life. The rehabilitation effort of the Navy is based on these principles.

We do not consider rehabilitation a separate undertaking started at some ill-defined stage in recovery, nor a procedure applicable only to a particular type of case. Instead, it is a process that starts as soon as a man comes to medical attention, and that includes all patients. It must terminate in the Navy when the man has attained maximum benefit from treatment and is ready to leave the hospital. It consists of the usual and expected medical and surgical care, supplemented by services which will hasten recovery and return to duty in an optimum state of physical fitness and with a minimum loss of adeptness for usual duties, or prepare the way for a satisfactory readjustment to civil life.

I feel sure that the work of our medical officers in all branches of medicine and surgery has already been brought

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The opinions or assertions contained herein are the private ones of the writer and are not to be construed as official or reflecting the views of the Navy Department or the naval service at large.

[*] Read before Ninth Assembly, U. S. Chapter, International College of Surgeons, Philadelphia, Pa.

to your attention It is not my purpose to discuss this fundamental part of rehabilitation, but, instead, to bring to your attention that part which supplements their work in our hospitals

The hospitals of the Navy are all general hospitals in the sense that they are not confined to the treatment of any particular type of case Their patients comprise personnel of the Navy, Marine Corps and Coast Guard who are admitted from stations and activities nearby, as well as casualties returned from the combat areas As a general rule, the patients received from nearby stations are admitted for acute conditions from which recovery within a short period is the usual outcome The patients received from combat areas, however, and a certain percentage received by local admissions, require prolonged periods of treatment before they are in condition to leave the hospital, whether to be returned to duty or to be discharged from the service Among these cases of long duration, there are conditions which present special problems of treatment or care, and certain of our hospitals have been selected to receive them Cases of bilateral blindness require special personnel and training facilities to aid them in adjusting to their disability The comparatively few such patients are cared for at the Naval Hospital in Philadelphia Patients who have undergone loss of hearing within the conversational range are also concentrated in the same hospital, in order that we may give full attention to the psychological adjustment which is so necessary, to training in speech and lip reading, and may properly fit them with hearing aids Patients who have suffered amputation of an extremity are treated in the Naval Hospitals at Mare Island, California, and Philadelphia, Pennsylvania In both of these hospitals, surgery necessary for revision of the stump is performed and the patients are supplied with artificial limbs which are manufactured in the hospital Patients with rheumatic fever or pulmonary tuberculosis, and subjects for plastic surgery, to mention a few other conditions, are concentrated in other hospitals, but in all instances the hospital also conducts its general work Consequently, the rehabilitation effort in any one hospital, both in its treatment and in its supplementary activities, is designed to meet the needs of its particular patient population

In accordance with a long standing policy of the Medical Department, patients who can be restored to duty are retained in the hospital until convalescence is completed, patients who are too disabled for further service are retained until they have received maximum benefit from treatment They, therefore, remain in our hospitals longer than they would in civilian institutions for the same conditions As they recover and their need for medical or surgical care diminishes and they feel increasingly fit, time may hang heavily on their hands A Rehabilitation Program has been developed to make profitable use of this time

The Rehabilitation Program of the Navy is designed to give attention to the problems of recovery that go beyond treatment of the ailments that brought the patients into the hospitals, hasten their convalescence and prepare them for gainful activity after they leave Many fields of endeavor are included in this Program—physical therapy, occupational therapy, physical training, educational and vocational counseling, social service in its broadest meaning, recreation, and, for those who return to civil life, assistance in their problems of readjustment Since the Program supplements the usual treatment procedures, it is governed at all times by the judgment of the medical officer responsible for the treatment of the individual patient as to when these auxiliary activities should be introduced and which ones will contribute most to the patient's recovery.

The activities of the Program are coördinated in each hospital by a medical officer who has been designated, the Rehabilitation Officer. He is assisted by a Board which coördinates all activities of the Program.

Although the same services are used for all patients, the direction they take and which ones are employed, depend upon the patient's probable length of hospital residence and whether he will probably return to duty or will be discharged to civil life.

Patients who will be returned to duty receive treatment by physical therapy and occupational therapy, if, in the judgment of the medical officer, either of these will contribute to more rapid recovery. It is necessary that these men be in full physical vigor when they return to their usual duty assignments. Therefore, they are required to take part in medically supervised physical training. This is conducted by naval personnel experienced in physical education and has as its objective, minimizing the deterioration in general physical condition which results from both the direct effects of the illness or injury, and the inactivity of hospital life. In order that they will not lose adeptness for their regular duties, an educational and training program is conducted by naval personnel who are experienced educators and who have received special instruction to prepare them for hospital duty. They have available a very wide range of both self-help and correspondence courses and they conduct classroom instruction when a sufficient number of men are interested in appropriate subjects. Men who will be in the hospital [illegible] to justify undertaking a [illegible] study are encouraged to pursue [illegible] subject that will be helpful to [illegible] their recovery. It is also possible for patients to complete the [illegible] instruction which are pre[illegible] for promotion of enlisted men, [illegible] given full credit for them. Many kinds of practical training in Navy duties are carried on, often even by bed patients. Such things as reading flag signals, recognition of war craft, and radio sending and receiving are carried on in the wards. Use is also made of the facilities available in the shops and similar activities of the hospital for men with mechanical ratings. Men who will be in the hospital for a considerable period, may undertake courses of study for which they can receive academic credit in the schools they left to enter the service. In short, it is the purpose of the program to make use of the time they must spend in the hospital to prepare them both physically and mentally for return to duty.

Patients who will be discharged from the service for physical disability have the benefit of the same services. It is just as essential that they be in good general physical condition and that their time in the hospital be profitably occupied. As soon as it is determined that a patient must be discharged for physical disability, he is interviewed by a trained vocational counsellor who reviews with him his training and experience both before and during his service. The man's aims for his future are learned. Professional members of the hospital staff interpret his physical and psychological handicaps in terms of their effect on his future activities. Based on this general survey, the man is then assisted in formulating a plan for his course of action after he leaves the service. During the remainder of his hospital residence, he is encouraged to pursue academic or practical training that will best prepare him immediately to set out on his selected course. All of our counseling and educational work with these men is designed to return them to civil life in a condition that will enable them to secure gainful employment. We consider it a duty to see to it that they are not led to believe that they must live on the pension they will receive, but that instead they must take a useful place in their local communities and progress by their own efforts. During the final days of hospitalization, these men are assisted in obtaining employment by referral to representatives of Federal and State agencies providing employment services, should they so desire. Applications for pensions or other benefits under existing laws are prepared and, before they are discharged, they are fully and accurately informed of the rights and benefits available to them as veterans.

Throughout the hospitalization of all patients, close attention is given to individual morale. This intangible but often determining factor in the recovery of any patient is of major significance among ours. Concern over conditions at home, worry as to the future effect of disabilities, the urge to get back into the fight, the desire to become economically independent if future military service is impossible—all have a bearing on how successful rehabilitation will be. Attention to morale starts with the initial interviews by the medical officer and is continued by the chaplains and by the trained social service workers of the American Red Cross to assist the men in solving their personal problems.

Although we aim to keep the patient's time fully occupied in profitable undertakings, we have not lost sight of the essential part wholesome recreation plays in any well ordered life. An extensive program of recreation which is coördinated with other features of the general rehabilitation scheme, is available both to patients confined to their wards and to those who are up and around.

Our rehabilitation effort then, resolves itself into a program to make the most profitable use possible of the time our patients must necessarily spend in the hospital. The majority of these patients are returned to active service, cured of the ailments which caused their admission, in full physical vigor, and with a minimum loss of adeptness for their usual duties. The lesser number who are returned to civil life, have been assisted in developing a plan for their post-service lives and have been given all practical aid toward placing this plan in effect with a minimum loss of time after discharge. We realize, however that, although we in the Navy can complete the physical rehabilitation of these patients, we can only lay the groundwork for their social and economic rehabilitation. Government has made many liberal provisions to assist these men to complete this phase of rehabilitation after their discharge from the service. It is our intention that the preliminary work we do before they are discharged will flow naturally into those provisions, so that progress toward complete rehabilitation will be one continuous, uninterrupted process.

SUMMARY

Following a brief review of the work of rehabilitation of disabled fighting men in earlier wars, the author outlines, in considerable detail, the work being done by the U. S. Navy during World War II, along the same lines. He lays especial emphasis upon the objects of such rehabilitation, namely, to return the man to duty in full physical and mental health, or, if he is so disabled

(Continued on page 347)

Some Obstetrical and Gynecological Problems

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ABORTION

TO the physician who is doing general practice, obstetrics or gynecology, abortions will give onsiderable concern, for the reason that hese must be dealt with almost daily. There are so many causes for abortion hat it is rather difficult to list them all, ut we have two predisposing factors. 1) death of an ovum in which there are hereditary faults, such as lethal or subethal factors in the germ plasm and (2) ow vitality, due to near-infertility, of the parents. There are also environmental faults such as malnutrition from defective implantation and acute or chronic disease in the mother. Another factor may be the separation of the ovum, possibly due to insufficient endocrine stimulus or low endometrial responses (abnormalities of the trophoblast) or there may be expulsive uterine contractions. Factors exciting such contractions may be mechanical hindrances to the growth of the fetus or external violence. Still another factor may be excessive uterine irritability.[1]

When we find cases with a history of abortion occurring after six weeks to three months of pregnancy, we must be concerned for these patients, as frequently they are most anxious to have children. However, considering the determining factors in such cases, we should not be so distressed when abortion has been completed, provided there are no infections or sequelae. We might compare these conditions to that of the faulty fruit which drops from the tree early in the growing season.

Here it might be of interest to glance at the accompanying table (see table on p. 333) which represents a 10-years' study (1933–42) of abortions in the Department of Obstetrics and Gynecology of the Hillman Hospital,[2] Birmingham, Alabama.

We note that the proportion of white to colored patients was about two to one in this study; the average age, 25.6 years. The average number of pregnancies was 2.9, while the number of abortions was 1.65; the number of viable children, 1.6. The number of infections was 24.7; those of the septic type being 7.8. Salpingitis accounts for 1.1 per cent and toxemia, .4 per cent. Operations in hospital included dilatation and curettage, 11 per cent, with sponge forceps, 7 per cent, with dilation of cervix, .5 per cent. Hemorrhages (slight or profuse) occurred in 7.9 per cent; 3.8 per cent showed a positive Wassermann. (The latter figure should be modified somewhat, as a number of these patients had antiluetic treatment in the clinic before the abortion occurred.)

The average number of transfusions was 3.41 per patient. (There were many more transfusions given during the latter years of the study than at the beginning.)

Treatment generally was conservative; percentages for these years were, 1941, 99 per cent, 1942, 99.5 per cent. Sulfonamides were used during the last seven years of the series with the following results: (a) cured, 44.7 per cent; (b) improved, 51.9 per cent; (c) died, 3.94 per cent, an average of 4 per year. The average number of days in hospital

TABLE I

	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	Average over 10 yr period
Number of Cases											
1 Total	83	133	83	72	61	99	167	240	183	140	126.1
2 White	56	90	59	53	33	68	108	154	105	83	81.2
3 Colored	27	43	24	19	28	31	59	86	27	59	38.7
Age											
4 Youngest	15	18	16	16	15	15	16	14	14	13	15.2
5 Oldest	40	45	45	42	48	46	44	45	42	44	44.1
6 Average	26.3	26	26	25.6	23.1	27.7	24	27.5	26.3	24.2	25.67
Marital State											
7 Married	70	116	77	62	36	75	142	184	146	103	100.9
8 Widowed	1	0	1	1	2	5	3	7	6	7	3.3
9 Divorced		1	0	0	2	1	0	2	6	6	2.1
10 Single	9	16	7	9	21	18	32	26	24	24	18.6
Number of Pregnancies											
11 Lowest	1	1	1	1	1	1	1	1	1	1	1
12 Highest	18	15	12	8	13	10	8	15	12	13	12.7
13 Average	3.7	2.3	2.4	2	2.6	3.1	3.1	3.2	3.45	3.13	2.998
Number of Abortions											
14 Lowest	1	1	1	1	1	1	1	1	1	1	1
15 Highest	11	11	5	7	7	8	4	7	7	7	7
16 Average	1.6	1.4	1.1	1.2	1.6	1.6	2.4	2.5	1.57	1.55	1.652
Number of Children											
17 Lowest	1	1	1	1	1	1	1	1	1	1	1
18 Highest	11	8	7	7	7	9	8	12	10	9	8.8
19 Average	2.3	1.96	1.4	1	1.5	1.3	1.7	1.6	2	1.48	1.624
Duration of Pregnancy in Months											
20 Shortest	1.5	1.5	1	1	1	1	1	1	1	1	1.1
21 Longest	6	6	5	6	6	[illegible]	6	6	7	[illegible]	6
22 Average	2.7	2.9	2.82	2.72	2.1	[illegible]	1.9	3	[illegible]	2.5	2.544
Type of Abortion											
23 Spontaneous	63	116	65	54	46	75	121	218	167	136	103.1
24 Induced	20	17	18	18	15	22	38	21	15		18.4
25 Therapeutic	0	0	0	3TB	0	2	8	1	1	1	1.6
26 *Number with Fever*	73	107	71	58	25	52	80	118	32	140	73.6
27 *Average Number of Days Temperature*	1.2	3.8	6.3	4.5	5.2	1.6	1.2	3	3.9	6.45	3.715
28 *Infections Number*	10	47	23	22	13	27	30	41	26	8	24.7
Infections Type											
29 Septic	2	1	1	3	1	1	6	32	26	5	7.8
30 Salpingitis	0	2	0	0	0	0	0	7	0	2	1.1
31 Toxemia	0	0	1	0	0	0	0	2	0	1	.4
Operation in Hospital											
32 D & C	3	0	0	0	4	24	26	31	19	3	11.0
33 Sponge forceps	2	0	0	1	0	0	0	3	1	0	.7
34 Dilated cervix	1	0	0	1	0	0	0	3	0	0	.5
35 *Hemorrhage*	4 (slight)	13	10	17	7	6	7	12	2	1	7.9
Wassermann											
36 Plus two	1	4	2	0	0	0	0	10	7	6	3
37 Plus three	1	0	4	8	1	1	2	1	3	3	2.4
38 Plus four	0	7	4	3	8	4	7	6	11	11	6.1
39 Total plus	2	11	10	11	9	5	9	17	21	20	3.8*
40 *Transfusions*	20	47	32	30	30	27	41	74	91	28	3.41†
41 *Treatment*	Cons.	Cons.	Cons.	Cons.	Generally Cons.	More D&C Cons.	More D&C Cons.	Many D&C Gen. Cons.	99% Cons. Maj. D&C	99.5% Cons.	
42 *Sulfanilamide*	0	0	0	1	33	33	54	67	54	43	28.5
Results											
43 Cured	20	53	50	36	34	47	100	148	70	17	44.7
44 Improved	59	75	33	43	22	46	62	87	104	122	51.0
45 Died	4	5	0	4	5	6	5	5	6	0	3.2
46 % Mortality	4.81	3.83	0	5.55	8.2	6.06	3	2	3.3	0.0	3.7
47 *Avg. Days in Hospital*	10.4	10.3	10.4	9.2	8.1	5	8.2	7.7	6.48	6.91	8.209

* 3.8 gen. aver. plus
† Transfusions 3.41 average

was 8.26. This gives a cross sectional picture of abortions in a representative general hospital (bed capacity, 476) at the time of this observation.

RH FACTOR

During the past few years, all of those doing obstetrics, have become increasingly conscious of this new discovery as to the cause of a rather heavy death-rate in apparently normal, newly born infants. Unfortunately, we are still rather at a loss as to what to do with these cases, unless they are born in a hospital where satisfactory donors are available and proper blood transfusions can be given at once. I refer to some interesting statistics by Lee;[3] of 616 cases tested, there were 12 per cent of Rh negative mothers; 15 per cent of an antepartum group was Rh negative. Ninety-eight husbands were tested of whom 80 were Rh positive, 14 negative. The husbands of four Rh positive women were Rh negative. Of 749 specimens tested for hospital blood banks, 14 per cent were Rh negative. These form a nucleus for the hospital's Rh Negative Donor's Club.

In seven cases of erythroblastosis reported by Lee, all the mothers, with one exception, were Rh negative. All the fathers were Rh positive; all the babies were Rh positive. The one exception could not be explained: father, mother and baby were all Rh positive. Three of the babies with erythroblastosis were saved by transfusions of Rh negative blood. All children of Rh positive parents died. Only one of the others developed any amount of agglutinins.

I cite the preceding as a warning to be on the lookout for these cases of erythroblastosis. As soon as a sufficient amount of serum is available, tests should be done routinely; certainly, if there is any history of a previous abortion which has not been satisfactorily explained.

HYDATID MOLE AND CHORIONEPITHELIOMA

We see in our practice an occasional case of hydatid mole and, still less commonly, of chorionepithelioma.

From the statistics of the Obstetrical and Gynecological Service of the Charity Hospital,[4] New Orleans, during 10 years, 85,453 pregnant women were admitted to this service. The incidence of typical hydatid mole in this period was one out of 3,049 pregnancies. Normal subsequent pregnancies occurred in 18 per cent. Two patients had recurrent moles, two and three respectively. In 1940 an analysis was published of 10 cases of chorionepithelioma in this hospital; these having occurred in the preceding 10 years. Since then four additional cases have occurred. In the present 10 year series of "full blown" moles, only two became malignant. Five of the 29 patients with moles had complete hysterectomy, which may have lowered the percentage of chorionepithelioma.

In view of these figures, I feel that steps should be instituted to lower the incidence of hydatid mole degeneration, as well as of infections and continued bleeding from retained products of conception, in cases of abortion before the third month of pregnancy. Curettage is advocated, this to be performed twenty-four hours after the occurrence of the abortion, if the patient's temperature remains normal; if sepsis is present, there should be a delay of five days after the temperature has returned to normal.

In the younger patients, conservative treatment of such moles is generally used, unless there is definite indication of malignancy. If the patient is 35 or more, however, hysterectomy is usually a safer procedure. In all such cases, regardless of age, where treatment has been conservative, frequent laboratory examinations should be made to determine whether any retained products of pregnancy or gonadotropic substances remain. If these tests reveal any evidence of malignancy, radical treatment should be instituted at once, otherwise we may get metastases to the lung, brain or other structures. These patients should always be instructed to return regularly for reexamination.

CARCINOMA OF THE CERVIX COINCIDENT WITH PREGNANCY

During 32 years, there were admitted to the Mayo Clinic, 3,570 cases of carcinoma of the cervix with pregnancy present in 26, or 0.7 per cent, when the carcinoma was found. This pregnancy may occur after carcinoma has developed, the average age of the 26 patients being 32 years. In the past, there has been no set rule for the treatment of carcinoma of the cervix in pregnant women, but in the first trimester, the fetus has generally been disregarded. Radium, X-ray and surgery are the safest treatment here as well as in the second trimester, in giving treatment, we should still consider the mother's welfare first. In the third trimester, radium may be used as soon as it is felt that a viable baby may be gotten by cesarean section. The cervix of every patient who is thought to be pregnant, should be visualized with a speculum on the first examination. If we do this, we will find some of these early cases of carcinoma and save a few lives which would otherwise be lost. It has been suggested that the proportion of abnormal fetuses resulting from radiation might run as high as 20 per cent, we feel that this figure would be too high if treatment were given after the fetus is fairly well developed.

THIRD DEGREE LACERATIONS AT DELIVERY

Most obstetricians will attempt to do repairs at the time the injury occurs, if conditions are favorable. If, however, the patient is delivered in her home or where surroundings are not favorable to asepsis, it is better to delay this work until she can be sent to a hospital where a surgical set-up can be had. If complications arise, they will usually do so within ten days or two weeks. The question then presents itself as to whether it is wiser to do secondary repair then or wait until later. If properly done at the time, good results may usually be expected. When the perineum has been repaired and the sphincter ani brought together without great tension, the sphincter may be cut posteriorly under the mucous membrane so as to relieve all tension on the sutures. This will heal as quickly as does the anterior lesion and takes the tension off the repaired sphincter. The longer the delay in operating after laceration, the more retraction there will be of muscles and mucous surfaces.

DYSPAREUNIA

This condition may be classified as primary or secondary, the primary group including those cases in which coitus has always been painful, the secondary, those where it was not so in the beginning, but became so later. Some patients experience slight discomfort for a short time at first coitus, but this will disappear shortly unless some disease or other pathological condition is present. In recently married women, it is usually due to some disturbance about the vulva. There may also be a certain amount of dyspareunia for a short time after childbirth, but unless there is some definite pathological condition left behind, this will soon clear up. There are also those women who are nervous or psychically disturbed, as well as those who are harassed by sexual intercourse because of repugnance to the man concerned. There may also be recurrent pain in the frigid. The seat of stimulation may also be a factor; in the younger groups, the clitoris is the chief point of stimulation while in the mature, the vagina is more sensitive.

It is imperative that the physician make an accurate estimate of the cause or causes involved. He must determine precisely whether definite pathology is present, and if not, whether mental or physical causes are at the bottom of the trouble; whether pain results from frigidity, from endocrine imbalance, from some psychic disturbance, or a combination of these. He must then treat whatever physical condition he may find, at the same time advising the patient of the true state of affairs—which two procedures together often result in satisfactory adjustment without further trouble.

ECTOPIC PREGNANCY

Some of the most dramatic cases that we have to deal with in gynecology or abdominal surgery, are those involving ruptured ectopic pregnancies. These patients are so desperately ill in so short a time after the rupture, that unless their condition is promptly diagnosed correctly, disaster may result. Farrell and Scheffey[6] analyzed 75 cases and made a comparison with 82 previous cases which they had studied. The 75 made up 1.3 per cent of the gynecological admissions to their service. The gross incidence of pelvic inflammatory diseases was listed as 40 per cent. Abdominal pain was present in all cases and 93, or 59 per cent, had had irregular menstruations. Pelvic masses could be outlined in 59 per cent.

The laboratory picture of tubal abortion or ruptured ectopic pregnancy shows much early inflammation, under which circumstances, we would expect to find the following: (1) decrease in red blood cells, (2) increase in white blood cells, (3) decrease in hemoglobin and (4) increase in sedimentation rate. Physical findings show that these patients normally are in shock or are suffering excruciating pain. They have extreme tenderness over the abdomen, particularly over the lower half; there may also be shoulder pain such as results from from irritation of the diaphragm by free blood in the abdominal cavity. This may resemble the pain a patient feels while taking a Rubin test, where the carbon dioxide goes through into the upper abdomen and irritates the phrenic nerve.

In this study, these authors listed the proportion of correct diagnoses as 76 per cent; the total mortality, 2.3 per cent; operative mortality, 1.9 per cent. In their first series, the mortality rate was 2.5 per cent as compared with 1.3 per cent for the later series.

There are some who advocate delaying operation until a transfusion can be given to get the patient out of shock before surgery is attempted. Personally, I feel that as soon as the condition has been diagnosed as a ruptured ectopic pregnancy, a transfusion should be given and surgery done at once to stop the hemorrhage. It is rather remarkable how quickly a patient will come out of shock and a smooth convalescence will be started. "Where there is delayed or missed menstrual period or an unusual type of flow with history of sudden abdominal pain and possibly the onset of a slight vaginal bleeding—think of an ectopic."

GENITAL FISTULAE IN WOMEN

J. Marion Sims is spoken of as the father of modern gynecology. This is based on his operations on vesicovaginal fistulae. His first successful operation was done on a slave girl in Montgomery, Alabama, in 1849.[*] His reward came after the thirteenth attempt at closure on this patient. The use of silver wire made it possible for him to attain the desired result. These vesicovaginal fistulae are usually from one of three causes: poor obstetrics, bungling surgery or ill judged radium or roentgen ray therapy.

Today, we do not see so many cases resulting from obstetrical trauma, due to improved technics and hospital facilities and to shortened labors. Surgical cases are chiefly due to hysterectomy, usually resulting from trauma to tissues by a hemostat with subsequent sloughing through the bladder wall.

Fistulae which follow radium or X ray therapy are quite prevalent. So far, we have been unable to do much to prevent them beyond the usual caution of screening healthy tissue from the rays. Patients who have had radium applied to the fundus or cervix should have post radiation examinations routinely. Many of these patients will be cured of the malignancy for which the radium was applied, only to develop stricture of the ureters and "die kidney deaths" from ureteral obstruction.

Some of the patients with injuries which result in third degree lacerations of the perineum, will incidentally develop rectovaginal fistulae which might have been prevented by episiotomy, manual dilation and massage of the perineum and vagina. Phaneuf[7] gave a remarkable report of 110 cases he operated on for vesicovaginal fistulae in which he obtained satisfactory end results in 108. The preoperative use of sulfasuxidine was very helpful in these cases as it controlled the flora of the intestinal tract, thereby lessening the incidence of infection.

Anyone doing abdominal or pelvic surgery should be thoroughly familiar with the anatomy, where there is a question of the ureter being involved, if necessary, pass ureteral catheters to identify the ureters before any cutting is done. Following are some of the qualifications for the surgeon attempting this type of work: (a) knowledge of the field of operation, (b) presence of mind, (c) ability to identify tissues before cutting, (d) ability to make satisfactory preliminary exposure, (e) knowledge of what conditions indicate the need for cystoscopic examination and the passage of catheters, (f) skill to limit isolation and denudation of ureters, (g) knowledge of the use of easily absorbable sutures where work is close to the ureters, (h) ability to avoid postoperative infection or injury by care in catheterization and avoidance of rigid catheters, an overdistended bladder, and the like. The first danger zone for the ureters is where they cross the iliac vessels, the second is about the ovarian fossa.

Ureteral obstructions are often found to be quite extensive if carcinoma of the cervix is present. In doubtful cases, when a retrograde pyelogram cannot be made, resort should be had to intravenous urography as this will often reveal obstructions in the upper urinary tract when inflammatory masses and tumors are present.

UTERINE BLEEDING[8]

In uterine bleeding three definite periods of life should be considered: (1) puberty, (2) adolescence and the child bearing years (menstrual life), (3) postclimacteric. We did a study of 107 cases by endometrial biopsy. The following shows in brief the findings in these cases.

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[*] Those of us who live in Alabama have a right to be proud of Dr Sims. His son in law, Dr John A Wyeth was founder of the New York Polyclinic—the first postgraduate medical school in the world.

TABLE II
107 CASES, TOTAL BIOPSIES 267

	Proliferative Phase Late and Early	Secretory Phase Late and Early	Hyperplasia of Endometrium	Glandular Hyperplasia	Polypoid Hyperplasia	Endometrial Glandular Dysplasia	Cystic Glandular Dysplasia	Placenta Tissue	Malignant Adenoma	Atrophic Endometrium
Number of biopsies..........	95	95	28	2	2	3	1	15	3	23
Per cent of total biopsies.....	35.5	35.5	10.4	.74	.74	1.08	.3	5.5*	1.08†	8.6

* This is the percentage of total biopsies taken; the percentage of placental tissue found in 107 cases was 14.
† This is the percentage of total 267 biopsies taken.

The percentage of malignancies in 107 cases, was 2.8. This shows the different types of endometrial tissues which were found as well as placental tissue in 14 per cent of the 107 cases. Many of these patients gave no history of knowing that they had been pregnant; pregnancy in others had taken place several years prior to the taking of the biopsies. This indicates that placental tissue remains in the uterine cavity for long periods after pregnancy has ended. This study was made primarily in cases of bleeding suspected to be of endocrine origin, other than those which might have cancer. However, of this number, there were 3 (or 2.8 per cent) in whom malignancies were found.

CONCLUSIONS

1. Seventy-five white and 32 colored patients were studied.

2. In this study of 107 cases, over a period of 3 years, the average age of patients was 38, the youngest being 14, the oldest, 69.

3. The average number of biopsies was 2.4 (ranging from 1 to 24) per patient.

4. The proportion of positive Wassermann reactions was 7.1 per cent (for both white and colored). This was not, in our opinion, any great factor as a cause of bleeding.

5. The percentage of unsuspected malignancies found in this group was 2.8. The ages of the patients so affected, were 26, 51 and 59 years respectively.

6. There were in the group, 15 (or 14 per cent) who had retained placental tissue.

7. The menstrual cycle is definitely under the control of the endocrine system. The glands bearing a fundamental relation to this function are the anterior hypophysis, the ovaries and the thyroid.

8. A diagnosis of irregular menstruation as a pathological condition should always be made cautiously, owing to the variation of the cycles of normal individuals.

9. An examination of the endometrial tissue is of great importance, as it closely reflects the functional activity of the ovaries in most cases of abnormal bleeding.

SUMMARY

The author reviews, under separate subheadings, a number of the more commonly encountered problems of gynecological and obstetrical practice. He recites his own observations, also the published observations of others, on some of these topics. He gives, in both text and tabular form, the results of ten years' study in a representative general hospital in a southern city (bed capacity, 476).

SOMMAIRE

L'auteur passe en revue, sous différents sou-titres, les problèmes les plus frequénts, qu'on rencontre dans la pratique gynécologigue et dans la pratique obstétricale. Il nous récite ses observations personnelles et celles d'autres observateurs.. Il nous donne sous formes classifiées les rêsultats de dix ans d'étude dans un des grands hôpitaux d'une ville du sud (capacité, 472 lits).

(Continued on page 347)

Herniation of Subfascial Fat as a Cause of Low Back Pain

Results of Surgical Treatment in Thirty-one Cases*

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PHYSICIANS and surgeons still have much to learn about low back pain, which is one of the commonest complaints encountered in medical practice. When all known causes of low back pain have been excluded, many cases still remain in an undifferentiated group. There are widely divergent opinions as to the cause of the pain in these instances. Much has been written about "fibrositis" and trigger points. These are painful pressure points that can be elicited by palpation and relieved by injections of some anesthetic solution, but opinion varies as to the underlying lesion in these cases, or the mechanism of pain production.

Recently I have observed a series of patients with these trigger points of pain and spasticity of the muscles of the back in whom disappearance of back pain followed surgical removal of a nodule of fat in the painful area. This report extends and amplifies that published in July, 1945.[1] My observations, which coincide with those published in England last year by Copeman and Ackerman,[2] show that herniations of subfascial fat account for some, perhaps for a considerable number, of cases of severe low back pain that have hitherto fallen into an undifferentiated group.

Case 1. In January 1937 I saw a patient who was suffering from excruciating pain in the back. She could not turn in bed nor could she rise from a sitting position without aid. Deep palpation revealed a very tender nodule over the left side of the sacrum about 5 centimeters from the spine and equidistant from the crest of the ileum. Pressure over this nodule produced severe radiating pain. Circuminjection with 2 per cent procaine solution caused immediate relief of pain and spasm, but these recurred when the anesthetic solution was absorbed. Subsequent injections gave similar temporary relief. Biopsy was suggested but was refused at that time. Finally, after repeated disabling attacks she consented to an operation in May 1945; since removal of the fatty nodule she has had continuous relief.

Case 2. In October, 1943, I observed another patient also a woman with very severe acute low back pain; examination revealed an extremely tender palpable nodule on the right side of the sacrum. Circuminjection with 2 per cent metycaine gave immediate relief. The patient had a history of "lumbago" of several years duration. Often when she stooped, she could not rise unaided; during acute exacerbations she could not turn in bed. The nodule in this case was hard, freely movable, about 5 centimeters in diameter, and felt like an encapsulated tumor. The patient agreed to an operation.

Upon incision over the nodule the fat tissue welled into the incision and part of this was excised. A search was made for the painful nodule, but it could not be located, even though the fat was removed down to the fascia of the gluteus muscle. The specimen was examined very carefully but no tumor tissue was found. There were simply two similar lobulated masses of fat, roughly round and measuring 5 centimeters in diameter. Sections showed homogeneous yellow fat, slightly lobulated. When I saw the patient later in the day, after the effect of the anesthetic had disappeared, she volunteered the information that the pain in her back was entirely relieved. She has had no recurrence of this difficulty during the two years since

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* Read at Tenth Annual Assembly U. S. Chapter, International College of Surgeons, Washington, D. C., December, 1945.

In December 1943, and again in February 1944, I operated on patients with similar disabling syndromes, who also had palpable nodules in the back which were trigger points of pain, and were relieved temporarily by local injection of anesthetic solution. In both instances, the only tissue removed was fat, and both showed the same striking clinical improvement as the first.

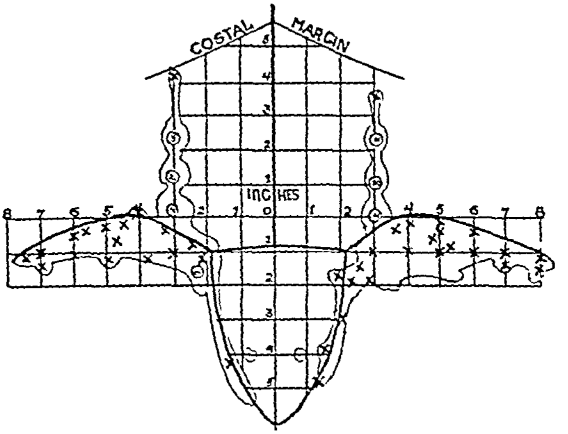

Fig. 1.—Situation of "trigger points" of pain (after Copeman and Ackerman).

Since histopathologic examination of excised tissue showed no change which could account for the relief these patients obtained, an anatomic explanation was sought. I consulted Dr. Normand L. Hoerr, Professor of Anatomy at Western Reserve University, on this point. Search in anatomy texts and atlases failed to yield any clew. However, when Copeman and Ackerman published their clinical and anatomic study disclosing that herniations of fascial fat were the basis for trigger points of pain in so-called fibrositis, it seemed probable that this type of lesion had accounted for the back pain, and its striking relief by surgery, in the cases I had observed.

When they inaugurated their study on "fibrositis," these authors first sought, and expected to find, a lesion of fibrous tissue accounting for the trigger points of pain. They first charted the situation of trigger points in patients with "fibrositis," and found that they were located consistently in certain parts of the back. Later, in dissections of fourteen cadavers, they found that the situation of trigger points (fig. 1) coincided almost exactly with the basic fat pattern in the back (fig. 2). They found that beneath the subcutaneous fat and areolar tissue lies the *highly vascular superficial* fascia, which forms a continuous sheet from the neck to the gluteal region. Space between this and the deep fascia is principally potential, containing little or no fat. In certain well defined places, however, deposits of pink fat constantly occur. These, with equally constant deep areas, constitute the basic fat pattern. In obese persons, this fat pattern tends to be obscured by more generalized deposition of fat. The fascias are not of uniform thickness, being notably thinner in certain places; frequently there are actual deficiencies in the

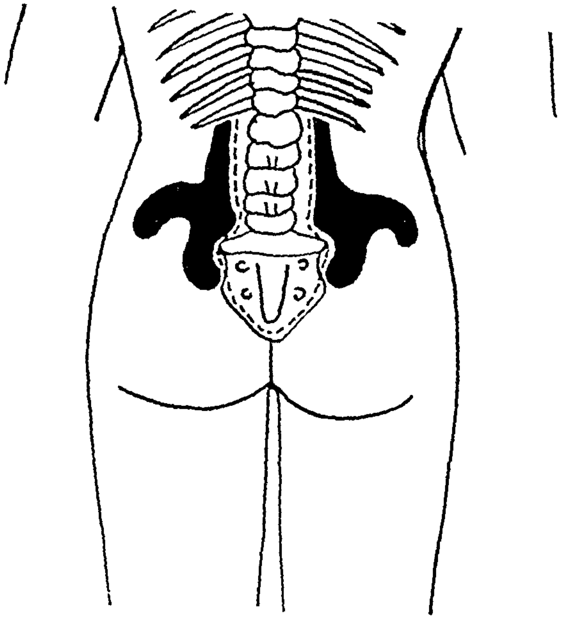

Fig. 2.—Basic fat pattern in the lower back (after Copeman and Ackerman).

fascial membranes. In these places, the underlying fat tends to bulge through, sometimes resulting in complete herniation (fat hernia). These small hernias tend to occur at points where the fascia is weak and do not give rise to symptoms until some incident, such as sudden trauma or some pyrexial illness (entailing lying on the back for several days) produces an increase in pressure and a painful degree of distention. This leads to edema, which may perpetuate the condition.

Copeman and Ackerman also described ten cases (all in men in the armed services) in which fatty tumors were excised, with striking relief of back pain that had been severe and disabling.

This report, which shed considerable light on the subject of these painful fatty nodules, and offered a likely explanation of the clinical results that I had observed, led me to the dissecting room, where I have dissected the backs of two cadavers. One of these was cachectic; the other had been well nourished. The findings were essentially the same as those reported by Copeman and Ackerman. In the cachectic specimen, on dissection of a skin flap from the level of the last dorsal vertebra to the left trochanter, and laterally to about the anterior superior spine of the ilium, the superficial fat pads were distributed in a regular pattern. The superficial layer of the superficial fascia was then dissected and reflected by a longitudinal incision. Distribution of fat pads followed essentially the same pattern as that of the superficial fat between the skin and superficial fascia (fig. 3). The deep layer of the superficial fascia was then dissected by making a longitudinal incision and reflecting this fascia laterally and mesially. Exposure of this area revealed a large fat pad lying over the gluteal region about 3 centimeters from the spine (midline), and extending below the level of the posterior superior spine of the ilium. This fat pad was roughly 10 x 15 centimeters and varied from 0.4 to 0.8 centimeters in thickness It was attached loosely to the deep layer of the superficial fascia and to the fascia and the fibers of the gluteus maximus muscle. The deep layer of the superficial fascia had several weak areas, through which this fat could very easily be forced into the space between the two layers of the superficial fascia. In this specimen, the space between the two layers was small, because the amount of fat was minimal. Dissection on the other side revealed essentially the same findings, which, with minor variations, are consistent with those found in the other cadaver.

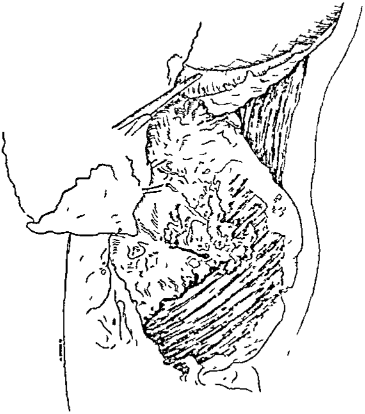

Fig 3—Situation of basic fat in relation to the gluteal muscle as shown by dissection.

I have, to date, operated on thirty-one patients with this type of back pain, and have observed these herniations. The clinical results following removal of the fat hernia have been almost uniformly good. Twenty-eight patients have had complete relief of disabling back pain. In two, the results have not been satisfactory. In the other case, the outcome is doubtful. In addition to these cases in which operation has been performed, I have also observed fifty-four patients whose back pain is apparently due to this same cause. These patients have one or more palpable nodules which are trigger points of pain, and have been relieved by circuminjection with anesthetic solution (Table 1). Some of these patients can be kept comfortable by repeated injections of anesthetic solution; some will probably come to operation later.

TABLE 1

Herniations of Subfascial Fat
Clinical Experience

Total cases	85
Males, 28; Females, 57	
Trigger points of pain	85
Relief by circuminjection of anesthetic solution	82
Operation performed	31
Relief following operation	28

These anatomic and clinical observations indicate that herniations of subfascial fat may occur through weak points in the superficial fascial layer and membrane, and that these fat hernias may be the cause of disabling back pain. This cause of low back pain has not been generally recognized. Besides the excellent contribution by Copeman and Ackerman, the only allusion to this condition that I have found in the literature was published by Sutro,[1] in 1935. He described subcutaneous fatty nodes in the sacroiliac area, and reported one case in which low back pain was relieved immediately and permanently by removal of such a fatty nodule. In four instances in which the fatty nodule was removed, the tissue was apparently normal adult adipose tissue, somewhat lobulated. He reported that in 170 unselected hospital patients suffering from various complaints, subcutaneous nodes were palpated in the sacroiliac region in ninety-four. In forty-five, they were present unilaterally and in forty-nine they were bilateral. While nodules were noted in thin persons, the incidence in obese women past middle age was generally highest. Thirty-three of these ninety-four patients had low back pain of muscular-skeletal origin. Sixteen of these thirty-three had tender nodules in the sacroiliac region.

The typical story in the cases I have observed, is that there is a history of trauma due to strain which initiated the pain. In all instances, the pain in the back is extremely severe and often is referred down one leg. In some, there have been recurrent attacks of such pain for many years, which had been periodically incapacitating. In many instances, the patients could not turn in bed during these exacerbations. In all cases a definite mass was palpable. This was extremely tender; pressure on it intensified the pain. Important diagnostic features are the severity of the pain, the frequent history of trauma, the frequency of radiating pain, the presence of a palpable tender mass which is a trigger point of pain and can be relieved temporarily by injection with an anesthetic solution.

The following additional case histories are illustrative and typical of the findings and clinical results:

Case 3 A truck driver, aged 33, had injured his back in a fall from a truck, two months previously His back became so stiff that he could not bend over. He became fatigued easily and had increasing pain in the back This was especially severe at night, when he had to change his position frequently For the past two weeks, there had been radiating pain down the right thigh. Since the injury he had consulted several physicians

He had received various forms of physical therapy and had been advised to wear a brace.

Physical examination revealed a hard, circumscribed irregular nodule over the right side of the sacrum near the sacroiliac junction. There were also tender trigger points over the left side of the sacrum. The one on the right was extremely tender to palpation and appeared to be attached to underlying structures. At operation multiple fat lobules were found in the right gluteal region. These were all exposed and dissected widely. Five small lobulated masses of fat were removed from the left gluteal region. Hernial openings in the fascias were located and sutured. The skin on both sides was closed with a subcuticular suture of alloy steel wire No 30.

Tissue from the right sacroiliac region consisted of fourteen small, roughly rounded fragments measuring from 0.5 to 2 centimeters in diameter. The material was moderately firm lobulated, hyperemic, homogeneous fat. Two fragments were brownish red, tough and consisted principally of fibrous tissue. Tissue from the left sacroiliac region was composed of five similar small, roughly rounded, lobulated fragments of homogeneous yellow adipose tissue measuring from 0.5 to 2 centimeters in diameter. Sections showed mature homogeneous lobulated fat which was the seat of slight focal edema and hemorrhage. There was partial lobulation by dense bands of relatively acellular collagenous connective tissue. Some of the latter contained small nerves. There were foci of edema and infiltration of moderate numbers of lymphocytes and polymorphonuclear leukocytes sometimes in perivascular location. The pathologic diagnosis was adipose tissue the seat of focal subacute inflammation.

The patient had immediate relief from the severe back pain and has been perfectly well for three months. He reports that he can run, bend and work without any trouble.

Case 4. A woman aged 33 had had severe back pain for two years. It was an ordeal to stoop over or be on her feet for any length of time. There was constant dull pain in the lower back which extended down the right leg and at times became "almost unbearable." Examination revealed palpable painful nodules over both sides of the sacrum, these were temporarily relieved by circum injection of anesthetic solution.

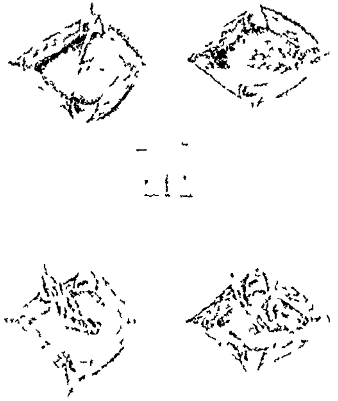

Fig 4—Technic of operation for removal of bilateral subfascial fat hernias

At operation, a wide dissection of fat was made on both sides. The patient's back pain was relieved immediately, and she was up out of bed three hours after the operation. Three weeks after she returned home she did her own laundry and drove her car. Six weeks later she was back on her bowling team and experienced no pain or sequelae from this exercise.

The tissue removed from the left side consisted of irregularly shaped pieces of yellow lobulated fat measuring 5 x 5 x 3.5 centimeters. There were also numerous smaller pieces of fatty tissue. The tissue removed from the right side included four pieces of soft pale yellow lobulated fat with intermingled fine gray bands of fibrous tissue measuring from 2.5 x 5.5 x 1.5 centimeters up to 8 x 7 x 3 centimeters and numerous smaller pieces of finely lobulated fat. Microscopic ex amination showed mature fibroadipose tissue, with fat predominating. One section showed infiltration of many eosinophils, lymphocytes and large mononuclear cells, indicating chronic inflammation. The pathologic diagnosis was fibroadipose tissue and fibroadipose tissue with chronic inflammation.

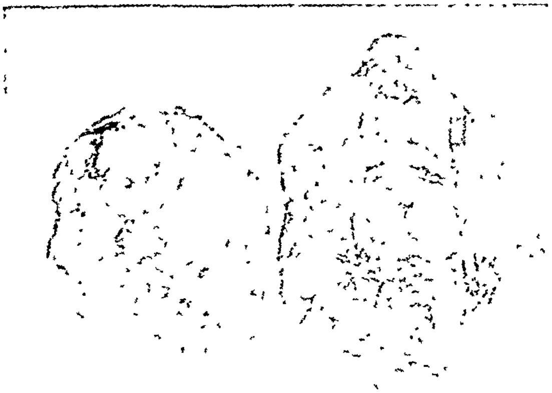

Fig. 5.—Specimens removed (Case 2) showing definite herniated lobules in surrounding fatty mass.

From a surgical standpoint, removal of the palpable fat mass presents some difficulty, especially when there is considerable superficial fatty tissue. In some instances, it has not been possible to see a definite mass that could be clearly differentiated as the palpable nodule; in others, the definitely lobulated mass is easily discernible. When the palpable nodule (herniation of fascial fat) cannot be clearly differentiated from the overlying superficial fat, a wide dissection of fat should be made down to the fascia itself (figs. 4 and 5). After excision of this fatty mass, the fascial layer should be carefully explored. In some instances, the weak point through which the herniation occurred can be determined; this should be sutured. I prefer to close the wound with a small rubber drain, using a subcuticular suture of alloy steel wire No. 30.

From the anatomic studies, it seems probable that these herniations may exist potentially or actually in many persons without causing severe symptoms. The role of trauma in initiation of symptoms should be stressed. Copeman and Ackerman also mentioned the role of continuous bed rest in producing an increase in fat pressure and a painful degree of distention. When the distention of the fat lobule is of sufficient degree, the blood supply to the fat is interfered with and edema and occasional hemorrhage occur. These changes initiate the symptoms. It seems plausible that, with subsidence of hemorrhage and focal edema in the fat lobule, there may also be subsidence of symptoms, with later recurrence following even a slight precipitating strain. From the histories related by some patients, this would seem to be what had happened. In others, in whom the disability is more or less chronic, it would appear that the edematous condition does not subside sufficiently to bring relief; the herniation becomes strangulated and fixed, perhaps with development of fibrous tissue.

The pathologic changes in these cases are not of great significance. The specimen removed usually consists of mature adipose tissue, sometimes definitely lobulated (fig. 6). In some cases the lobule of fat has a pedicle, probably the result of long-standing strangulation of the fat hernia. Occasionally there is young fibrous tissue growing into the fat. The fat tissue usually shows edema and hemorrhage. In one case in this series, there were lobulated groups of mature adipose cells separated by dense bands of fibrous connective tissue, which in some places exhibited edema and focal hemorrhage. In one instance, nerve tissue was found in the fat lobule.

The majority of patients in this series were women; only eight of the thirty-one patients operated upon were men. Since the first seven patients I saw all were women, I thought at first that perhaps the condition was confined to females. However, all ten cases reported by Copeman and Ackerman were in men, and in the past six months I have seen twenty-eight men suffering from this type of condition. In his report on the incidence of fatty nodes in the sacroiliac region in 170 hospital patients, Sutro commented that while they were sometimes noted in thin persons, the incidence in obese women past middle age was generally highest. This observation agrees with my clinical experience, in which two-thirds of the patients were women.

SUMMARY AND CONCLUSIONS

In a series of thirty-one cases, excruciating pain in the back, sometimes accompanied by leg pain, has been relieved by surgical removal of a herniated tumor of subfascial fat. In many instances there was a history of trauma as the precipitating cause of back pain, often with a history of recurrent attacks. In all instances, there was a palpable mass which proved to be a trigger point of pain, and the diagnosis was confirmed by injections of anesthetic solutions around the mass, which produced prompt though temporary relief. In addition to these thirty-one patients who have been subjected to surgical treatment, I have also observed fifty-four patients with a similar condition, relieved by local anesthetic injections, who have not been operated upon.

Anatomic dissections reported by Copeman and Ackerman, in England, and those that I have made, explain and confirm these clinical observations. In the back, the distribution of fat underneath the superficial fascia follows a consistent pattern (basic fat pattern) which coincides with the areas in which trigger points of pain are found in cases of low back disability. The dissections show that at certain points, the fascial fibers and membrane are weak; herniations of the subfascial fat may easily occur at these places. Sudden strain precipitates the herniation of fatty tissue, which then becomes edematous, causing pressure which may lead to severe and disabling back pain.

Since pain in the back is such a common cause of disability, it is important to isolate the definite cause whenever possible. There are many known causes of back pain for which there are standard treatments, but there are also many cases in which the cause is obscure and the patient gets little or no relief from symptomatic treatment. It seems probable that some patients (perhaps a fairly large proportion) in whom the cause of back pain has not been diagnosed previously, may have herniations of fascial fat, surgical removal of which may bring prompt and lasting relief. Because a history of trauma due to strain is so common in these cases, it seems obvious that many of the cases of so-called nonspecific traumatic back disability may fall in this group. Hence the condition has significance in relation to industrial medicine and compensation cases. Another group of cases in which this condition may frequently be found is that of so-called chronic fibrositis. In this condition, nodules can often be palpated which prove to be trigger points of pain and can be relieved by local injections of anesthetic solution. It is also my impression that some, perhaps many, cases of so-called functional back pain, which is considered to be psychogenic, may be due to subfascial fat hernias.

This operation is not presented as a panacea for all types of low back pain

However, it seems certain that if the possibility of such a lesion is recognized and if careful examination is made for palpable masses which may prove to be trigger points of pain, numerous patients may, by this procedure, be relieved of a condition that has incapacitated them, sometimes for many years.

RÉSUMÉ

Dans une série de 31 cas observés par l'auteur, l'ablation d'une tumeur adipeuse herniée fut suivie du soulagement d'atroces douleurs du dos. De ces cas, et aussi d'un grand groupe présentant les mêmes symptômes, l'auteur est d'avis que chez des malades souffrant de douleur dans le bas dos, on doit en l'absence d'autres états pathologiques, songer à l'existence d'une hernie adipeuse se frayant un chemin à travers le fascia. Les observations, ainsi que celles de deux chirurgiéns anglais qui ont étudié le question, l'ont conduit à croire que cette condition se rencontre le plus souvent chez les femmes obèses. Néanmoins, il a observé cette condition chez des hommes et des femmes non-obèses. L'enlèvement chirurgical de des masses est suivi d'un soulagement complet et permanent de la douleur.

RESUMEN

En una serie de 31 casos observados por el autor, la presencia de intenso dolor lumbo-sacro fué aliviado mediante la extirpación quirúrgica de un tumor graso subfascial herniado. Fundándose en los resultados de estos casos y en los antecedentes de un gran grupo con síntomas similares, que todavía no han sido objeto de intervención quirúrgica, el autor estima que muchas personas que aquejan dolor lumbo-sacro, de causa inexplicable, puede ser que tengan tales hernias grasas a traves de la fascia. Sus propias observaciones y las de dos cirujanos ingleses que trabajan en éste mismo sentido, han convencido al autor que las personas que presentan este estado patológico son mujeres de edad mediana y obesas, aunque él y los mencionados cirujanos ingleses han podido ver las referidas hernias en otros tipos físicos tanto en hombres como en mujeres. La extirpación quirúrgicas de los nódulos responsables del *dolor, proporciona casi siempre la com*pleta y permanente desaparición del dolor.

Свод.

В серии 31 случаев, изученных автором, мучительная спинная боль была облегчена удалением грыжи подфасциального жира. На основании этих случаев, а также большей группы с подобными симптомами, которые еще не были оперированы, автор думает, что многие больные, страдающие от иначе необ'*яснимой низкой* спинной боли, имеют такую грыжу *жировой оболочки* через фасцию. Его наблюдения, а также двух английских хирургов, убедили его, что большинство таких больных это жирные женщины среднего возраста, хотя эти грыжи были найдены и в других физических типах, как в мужчинах, так и в женщинах. .Операция для удаления болезненных нодюл почти всегда приносит полное и постоянное излечение боли.

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(Continued from page 331)

as to be a subject for discharge to civil life, to prepare him fully for readjustment and to making his own successful way in spite of whatever handicap he may have acquired

RESUME

Après une brève revue des methodes de réhabilitation employees pour le soulagement physiques des mutilés des guerres précédentes l'auteur nous decrit en detail l'ouvrage que le Navy Department de la deuxieme guerre mondiale est en train d'accomplir Les objectifs de ces methodes est de restaurer le blessé en excellente sante physique et mentale, si l'etat du blessé est tel qu'il doit être retourné à le vie civile on le prepare pour qu'il s'adapte á son entourage et qu'il puisee reussir dans la vie malgré les desavantages causés par son état de mutilé

RESUMEN

Después de hacer una breve revista del trabajo de reabilitación de los iválidos, combatientes en guerras anteriores, el autor describe con gran detalle lo que se ha hecho a este respecto en la Armada de los Estados Unidos durante la pasada Guerra Mundial Hace especial hincapie sobre el objetivo de la reabilitación que es, en substancia, el retorno del individuo incapacitado a la completa normalidad funcional en la vida ordinaria o, en todo caso, si la invalidez es tal que no se le puede restaurar a la total normalidad, readaptarlo a una nueva vida en que pueda ser util a pesar de la incapacidad que presente

Свод

После краткого обзора работы реабилитации инвалидов прежних войн автор довольно детально описывает работу в этом направлении северно американского флота во второй мировой войне Он особенно подчеркивает цели этой реабилитации 1) возвращение бойца на службу в полном физическом и духовном здоровье, 2) если он так поврежден, что должен быть уволен со службы в штатскую жизнь, то необходима подготовка его к полному приспособлению и успеху в жизни, несмотря на степень приобретенного повреждения

(Continued from page 338)

RESUMEN

El autor analiza, bajo subtítulos diferentes, los problemas mas frecuentemente confrontados en la practica ginecologica y obstetrica Estudia sus propias observaciones, las experiencias de otros autores y, en fin, algunos otros temas sobre el particular Concluye haciendo, en forma desciptiva y con cuadros, un resumen de diez años de experiencia en un hospital general representativo en una ciudad del sur de los EE UU, con una capacidad de 476 camas

Свод

В отдельных главах автор дает обозрение наиболее частых задач, возникающих в гинекологической и акушерской практике В некоторых случаях он дает наблюдения, как собстевнные, так и других авторов В описательной и табличной форме он дает результаты десятилетнего опыта в типичном 476 коечном госпитале в южном городе

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Primary Malignant Disease of the Stomach

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PRIMARY malignant disease of the stomach constitutes one of the greatest and gravest problems in medical practice. It should occupy a most important place in the thinking of the medical profession and the laity when considering the incidence and annual mortality rate. In the United States, despite steady improvement in the standards of medical practice throughout the country, the incidence of this disease is steadily increasing.

Complete surgical removal of malignant lesions of the stomach remains the best method of treatment. Cancer of the stomach is always such a serious illness, that it demands prompt recognition and treatment to prevent a fatal termination. It is evident therefore, that if results in the treatment of malignant gastric lesions are to produce improvement, more responsibility in early recognition of the lesions must be assumed by the clinician who is first consulted by the patient. It is important to realize that the symptoms of carcinoma of the stomach are not always typical and clear cut; many do not present a text book picture of signs and symptoms. Unfortunately those patients who do present a text book picture of carcinoma of the stomach are in so far advanced a stage of the disease, that they offer little hope for successful surgical removal.

In order that the diagnosis may be made early, it is essential that the clinician be willing to subject to roentgenologic and gastroscopic examination, many patients about whom he may entertain only the suspicion that they have the disease. The number of early, resectable lesions thus discovered will more than justify any inconvenience to the patient.

In a fairly large number of instances, the surgeon will find that radical resection is essentially only a palliative operation. Until a biologic test becomes available to suggest that a patient harbors a malignant growth somewhere in his body, late recognition in many cases undoubtedly will continue. The tragedy of the situation is that carcinoma *per se*, certainly in the beginning, gives no symptoms at a time when it is a curable, resectable lesion. Gastric carcinoma is not, as so many patients and a few physicians still believe, a hopeless disease.

With improvement in preoperative preparation, technic and equipment, anesthetic methods and postoperative care, surgeons have greatly widened the field of operability on cancer of the stomach. Total removal of the stomach, which was regarded as a rarity only a few short years ago, is now a relatively frequent procedure. While the results of total gastrectomy have not been too brilliant, the aggregate of patients who have survived for from one to several years after such an extensive procedure, in reasonable comfort, must be considered.

The increase in the percentage of operable cases is due in part to earlier diagnosis and treatment, but in even greater part to a willingness on the part of surgeons to perform resections on patients who previously would have been considered inoperable. It would be of the utmost importance if it were possible to know and recognize exactly what anatomic and physiochemical changes take place in the stomach preceding the development of cancer The relationship of cancer to chronic peptic ulcer of the stomach is a much debated one Likewise the relationship between so called chronic gastritis, with its glandular changes, and gastric carcinoma is unknown and unproved

Cancer never develops in normal membrane A great majority of gastric carcinomas derive from the mucus-secreting cells of the mucosa The pyloric area is the most frequently affected, more tumors begin on the superior half of the stomach than on the inferior The frequency with which carcinoma of the stomach has been observed in patients under medical treatment for pernicious anemia definitely suggests that all patients with that disease should have a roentgen examination of the stomach several times a year

The spread and metastasis of gastric carcinoma Like other carcinomas, gastric cancer spreads to other tissues by direct growth, and metastases occur through the lymphatic and blood vessels

Physiological change associated with gastric carcinoma and toxemia of stasis The condition itself and the chemical changes in the blood associated with it, have been described many times and are too well known to require detailed discussion here The principal clinical features are (1) marked gastric retention, not necessarily associated with vomiting, and (2) marked dehydration with varying degrees of hemoconcentration, prostration, neuromuscular irritability, hypotension and oliguria The characteristic chemical changes in the blood which accompany the condition are (1) hemoconcentration with shrinkage of plasma volume, (2) reduction in the fixed bases of the serum, (3) increase in urea and other nonprotein nitrogenous components of the blood, (4) diminution in plasma chlorides and (5) increasing ability of the blood to combine with carbon dioxide Ketone bodies may appear in the urine

The physiological mechanisms underlying these changes are not fully understood Dehydration and deficiency of bases are of the most critical significance and are the factors most responsible for serious symptoms and death Preoperative preparation and postoperative care of patients with carcinoma of the stomach have assumed increasing importance during the past decade During this same period there has been a steady decline in the mortality associated with radical gastric resection One of the common causes of mortality, especially in bad risk patients, has been inadequate preparation

Preparation and postoperative care Patients with operable carcinomas of the stomach require the most careful supportive treatment, the importance of adequate preparation cannot be too much stressed

The importance of the preoperative management is now so clearly understood that few surgeons would consider operation without at least attempting to correct certain abnormalities which exist in nearly every instance in patients who come to surgery for gastric resection The indications for therapy follow directly from knowledge and understanding of the pathologic physiology due to gastric cancer Therapy must be directed toward correcting the infection, dilatation, atony and nutritional deficits, and the losses of fluids and electrolytes

The administration of small amounts of dilute hydrochloric acid will lead to early disappearance of foulness of the gastric contents and more rapid reduction of the bacterial count Vitamin B complex, vitamin C (and sometimes K) in daily doses are beneficial The water balance, salt balance, acid base equi

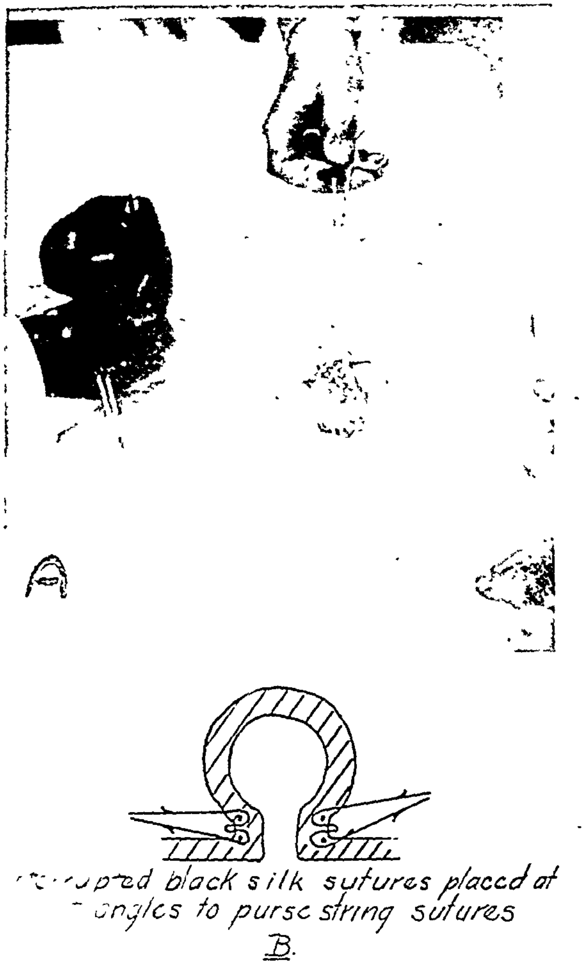
A
...rupted black silk sutures placed at
... angles to purse string sutures
B.

Fig. 4

[illegible] as low to the base as possible and sutured with interrupted silk (figs. 6 and 7). An opening into the apex of the tube (fig. 8) by means of a cautery may be made at any time from the first to the tenth day after the completion of the operation (fig. 9). It has been found more desirable to delay this opening until the seventh to the tenth day if possible, to allow healing of the anterior wall around the tube without infection (fig. 8).

SUMMARY

1. More responsibility must be assumed by the clinician who is first consulted by a patient complaining of lack of appetite and loss of energy and who has a mild anemia. The physician should be keenly aware of the danger of symptomatic treatment for these patients as it might mask the early symptoms of carcinoma. He should urge roentgen examination of the stomach. This is the only way in which an earlier diagnosis of gastric carcinoma may be made. Perhaps it is not too farfetched to suggest to all patients over 40 or 45 years of age the safety of a routine gastric X-ray every six months, or at least every year, as a possible means of early detection of carcinoma of the stomach.

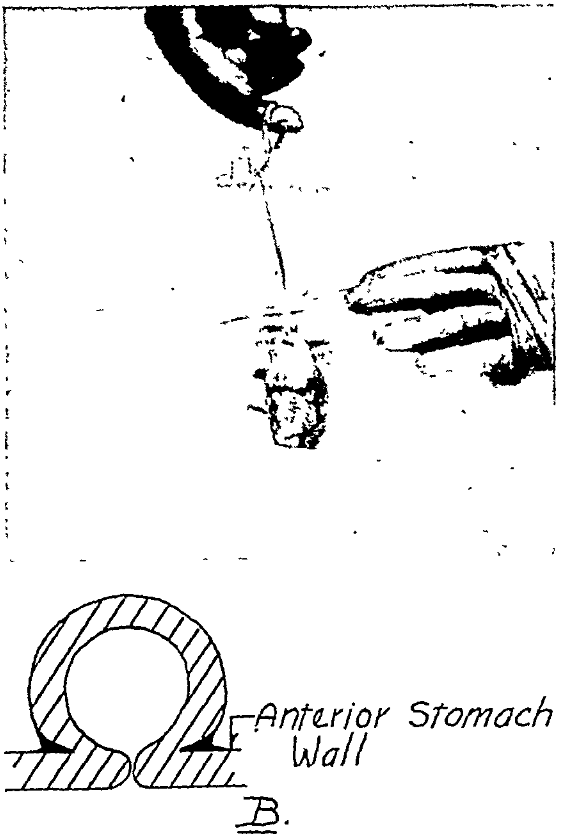

Fig. 5

2. Proper preparation of patients for surgery by correction of physiochemical abnormalities together with adequate

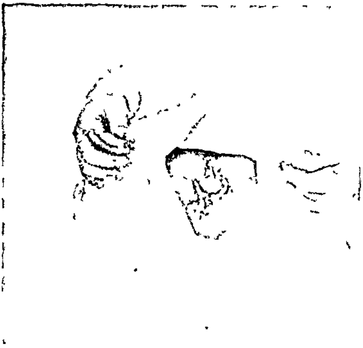

Fig. 6

Fig. 7

postoperative care, is more essential to good results than brilliant operative technic on poorly prepared patients.

3. Whether palpable lymph nodes are present or not, the four zones of lymphatic metastasis should be included within the resection, to increase the likelihood of cure.

RÉSUMÉ

Le clinicien doit endosser plus de responsabilité quand il est consulté pour la première fois par un malade qui se plaint de mangue d'appétit, de perte d'énergie et d'anémie légère. Le traitement symptomatique de ces malasis *apparemment bénens peut masquer* les prémiers signes d'un carcinome de l'estomac. Il faut insister sur un examen aux rayons X, car de mayen est le seul qui nous permet un diagnostique précoce de carcinome gastrique.

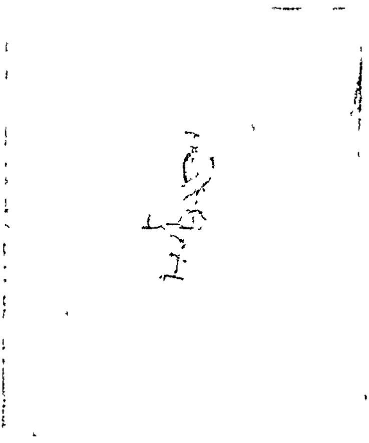

Fig. 8

L'auteur recommande aux malades de plus de 40 ou 45 cas de se soumettre à un examen radiologique de l'estomac chaque six mois, sinon chaque année afin de déterminer la présence ou l'absence d'un cancer de l'estomac.

La préparation appropriée du malade pour l'intervention chirurgicale et des soins post-opératoires adéquats

sont essentiels pour l'obtention de bons résultats. Qu'il y est ou non des nodes lymphaques palpables, les quatre zones de metastases lymphatiques seront incluses dans la résection afin d'augmenter la probabilité d'une guérison.

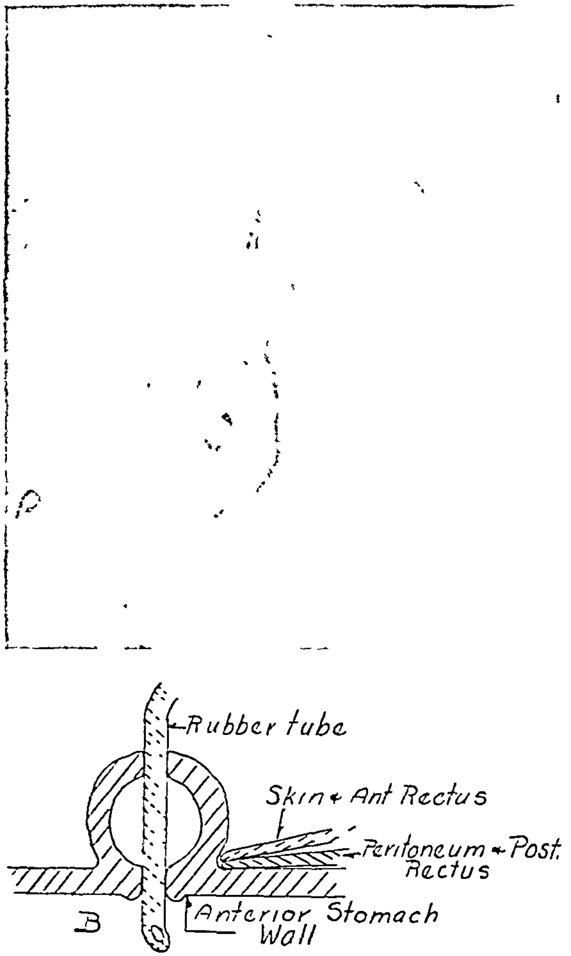

Fig. 9

RESUMEN

El autor pone de relieve la gran responsabilidad que cabe al clínico que es consultado por un paciente que aqueja falta de apetito, pérdida de energía y presenta una ligera anemia. El médico debe estar en guardia en estos casos frente a la posible presencia de carcinoma gástrico y en consecuencia debe eludir el tratamiento sintomático simple, ya que ello podria enmascarar los síntomas precoces de dicha grave lesión del estómago. Atendiendo a esta posibilidad, es conveniente que el práctico recomiende la exploración roentgenográfica, por ser éste el unico método para poner de manifiesto precozmente el carcinoma.

El autor estima que no sería exageración el proceder a un examen radioscopico en todos los pacientes que se observe por encima de 40 o 45 años de edad, tomando radiografías cada seis meses o por lo menos cado año, como una posible técnica para descubrir en su iniciación el carcinoma gástrico.

Una preparación adecuada del paciente mediante la corrección de las anormalidades físico-químicas, conjuntamente con la buena instauración de pertinentes medidas postoperatorias, es mucho más importante y esencial para los buenos resultados que una brillante técnica operatoria en un paciente pobremente preparado. Finalmente se recomienda la extirpación total de los ganglios linfáticos de las cuatro zonas de metástasis linfáticas, se observen o no nódulos palpables, ya que haciéndolo así se acrecientan las probabilidades de cura.

Свод.

Больше ответственности должно быть принято врачем, чей больной первый раз приходит с жалобами на потерю аппетита и энергии и у которого константирована небольшая анемия. Врач должен сознавать опасность симптоматического лечения больных с этими, повидимому, простыми симптомами, так как они могут маскировать ранний рак желудка Он должен настаивать на рэнтгеновском исследовании, так как оно является единственным способом постановки раннего диагноза желудочного рака.

(Continued on page 360)

Editorials

To Read, to Weep and to Ponder

OF all the atrocities of World War II, none were as contemptible as the actions and attitudes of some of the German medical and surgical profession under Hitler and his Reich.

In *The Knickerbocker Weekly, The Netherlands Magazine,** Dr Karel Sperber, formerly of Prague, Czechoslovakia, and now of Vancouver, British Columbia, Canada, gives details of his experiences as a prisoner of war. Dr Sperber came to know a number of prison camps, the last being the notorious concentration camp of Oswiečim. With commendable restraint Dr Sperber limits his story to his experiences as a doctor, having been one among many imprisoned physicians forced to exercise his medical skill. The horrors of Oswiečim have already been widely publicized. Of the doctors' side less is known. Excerpts from Dr Sperber's article follow.

As a medical student I had heard German professors say to their students 'Let this be your guiding principle *Nil Nocere*—never harm your patient.' I also remember Hermann Nothnagel's words 'Only a Good Man can be a Good Physician" hung as a huge sign upon the wall of one of our classrooms.

A good many of the concentration camp doctors must have seen these words in their student days, perhaps even SS Standartenfuehrer Dr Lolling Medical Officer in charge of all concentration camps. He arrived in Oswiecim one day in April, 1945 and informed us prisoner doctors for there were hundreds of us that he was going to establish on a large scale experimental physiological pathological experiments in which the universities of Heidelberg Munich Berlin and Koenigsberg would participate. In preparation we prisoner doctors were forced to the manual labor of cleaning a barracks for the purpose. Five female nurses arrived and after them Dr Clauberg Professor at Koenigsberg University and Director of the Gynecological Clinic at Koenigshutte Silesia. His assistant was SS Hauptsturmfuhrer Dr Wirths chief medical officer of Oswiecim and former regimental surgeon of Hitler's Leibstandarte.

Are these men on the list of war criminals? Have they been apprehended?

The first patients were women from Holland mostly Jewish. They ranged in age from barely seventeen to over sixty. Some were pregnant. SS women equipped with the customary whips pistols and bloodhounds drove them into the experimental barracks. SS Hauptsturmfuhrer Schwartz a former groom gave the orders. He was accompanied by a few very young men.

The women were forcibly stripped of clothing while the SS men maltreated them. Then they were shaved heads and bodies by the five nurses. We doctors to whom under normal circumstances a naked body is no embarrassment were deeply disturbed by these living hairless "dummies." We had to spread a greasy delousing cream over the poor bodies of Professor Clauberg's experimental material bodies belonging to screaming shattered women they might have been our mothers and sisters. Finally they were allowed to cover themselves with old Russian uniforms with colored handkerchiefs for their greasy bald heads. We then had to collect the hair from the floor and box it. It was worked into mattresses and the good Burgers of the Reich who as we have been told recently never knew what went on in the concentration camps slept on them with undisturbed consciences.

Taking no part in these preliminaries Professor Clauberg buried himself with typical

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German thoroughness in the preparation for his experiments, selecting assistants, installing apparatus, arranging for the collection of semen at the adjoining camp Birkenau.

By now the women were half crazed. Some were used for artificial insemination. Others were sterilized by x-rays and the ovaries then extirpated by an abdominal operation for microscopic examination. At the same time, Dr. Kaufman, a twenty-nine-year-old Herr Oberleutnant der Luftwaffe, carried out the same procedure on male prisoners, first exposing the testicles to sterilizing doses of x-rays, and then removing them for examination. To check the possibility of survival of sexual urges the Herr Professor and the Herr Oberleutnant paired off nude castrated men and women in tiny rooms and spied on their behavior.

In the teaching schools of the free peoples of the world films have been made of the birth process for the purpose of training midwives and medical students, mother and child being left unimpaired in health. At Oswiečim, too, confinement was photographed by Dr. Entres, the medical superintendent of the concentration camp, and his assistant, Dr. Mengele. But mother and child were then destroyed in gas chambers. Why feed useless mouths?

Cancer also engaged the scientific curiosity of Professor Clauberg. By a skillful operation he incised the wombs of healthy young women and implanted cancer tissue. Then he waited with the patience for which German scientists are noted, before finally removing the entire uterus for examination.

When the experimental work grew too extensive for his own staff Dr. Clauberg forced prisoner-physicians into the work. A Jewish-German Professor from Frankfurt, Dr. Salomon, who in better times had brought many babies, including future SS men, into the world was one. A woman doctor, Dora Klein, a former medical officer of the International Brigade in Spain, was another. Dr. Dering, a Polish physician from Warsaw, became so infected with the scientific poison that he turned renegade and was rewarded by being released and appointed assistant in Professor Clauberg's private clinic.

So far as I know the findings of the Oswiečim experiments have never been published. Their secrets are still with Professor Clauberg but I have been assured on good authority that little could have been revealed that has not already been proved by animal experiment. I do know, however, that after the subjects had served their purpose they were blessed with the mercy of a quick death by cyanide gas in the gas chambers of Birkenau.

Nothnagel said, "Only a good man can be a good physician." Though it does not necessarily follow that all doctors are good men, there have been enough of them to engage the faith and confidence of millions of sick and ailing who turn to them for help. But Nazi Germany has prostituted the finest arts and sciences and debased medicine. There is a tradition that doctors do not readily let each other down. But God forbid that as the concentration camps fade into oblivion and doctors the world over meet again to exchange ideas and discoveries at international conferences, any physician or surgeon should say of the German doctors of the German concentration camps, "After all, these men are scientists, men like us, and we must sit next to them and exchange ideas with them if medical science is not to suffer or perish."

To those who forgive and forget too quickly I dedicate these lines.

The *South African Medical Journal,* May 27, 1945, quotes from a communication received from Dr. Philipchuk, Secretary of the Soviet Scientists' Anti-Fascist Committee, Moscow, May 1944:

In violation of all international agreements the Germans are destroying civil and military hospitals and murdering and poisoning prisoners of war, burning down hospital buildings together with patients in them and deliberately spreading typhus.

Not only are German doctors participating in the planned extermination of the population of occupied territories as organized by the German High Command, but we also have ample evidence of atrocities perpetrated by German doctors on their own initiative. Here are a few facts:

Dr Tuemer, head of the Public Health Department in Artemovsk in the Donetz Basin, forbade the townspeople to send food to prisoners of war who were dying of starvation in his hospital He and his underlings murdered Drs Klaudia and Sarah Shapiro and other medical officers plundered local medical institutions and ordered the following to be blown up in retreat Workers' clinics, the First and Second City Hospitals, venereal disease treatment center and stations, sanitary service stations, medical school, the Children s Hospital, the Children's Tuberculosis Sanitorium, ten nursery schools and infants' homes

In Stalino in the Ukraine German Drs Roll and Kuchendorf took part in the plundering and destruction of all medical schools and research institutions Similar actions were carried out in other cities The actions of these doctors everywhere made them worse than wild beasts On the evidence given by Russian doctors who had been prisoners of war the Germans deliberately killed camp prisoners and held food at starvation levels When released, the prisoners were completely exhausted and easy victims of typhus, dysentery and other infections rife in the camp Russian doctors were executed in countless numbers The notorious German Dr Orland ordered filth from the latrines to be emptied into the pit dug by prisoners and then ordered them driven into the pit and there shot. This same Orland beat Dr Bulochnick, broke his arms, gouged out his eyes with a gun and broke his pelvis, thereafter ordering Bulochnick and fourteen other doctors shot in the presence of prisoners of war, flanked by his fellow German doctors, Schulke and Brueck There is documentary evidence that many Soviet, including Jewish, doctors were included in the mass shootings

German doctors made it a practice to secure blood by forcibly bleeding children and adolescents There is documentary evidence that in one village forty children below the age of thirteen were removed to the German army hospital at Starotitarovskaya where they were drained of blood All died

Soviet citizens were used in experiments by German doctors, to try out medications and operations, and given the complete bag of tricks from laboratory tests to photography during the experiment

In view of these and many similar facts concerning the crimes committed by men with medical diplomas Soviet doctors can no longer maintain silence They call on their colleagues of all United Nations to place a brand of shame on German army doctors who have converted medical practices into weapons for the destruction of life We beg all our colleagues not to let the doctors of Hitler's army think their diplomas will save them from the inevitable retribution or that they will not be made to answer for their crimes together with other Hitlerite criminals

From a Fellow of the International College of Surgeons now in Europe

The systematic sacrificing of millions of innocent human beings would have been impossible without the support of the German medical profession The world outside Germany, and particularly outside Europe, has been informed of but few details yet few as they are they justify early institution of a thorough investigation

The methods of dealing death, from the gas chambers in "death camps" to the intravenous injection of air would have been impossible without the scientific research of unscrupulous physicians who thereby supplied the tools of execution Even the lethal dose of cyanide, later used for self destruction by Himmler, von Friedeburg and others, was determined by experiments on Russian prisoners of war Even the up to date mortuaries attached to the extermination camps served the doctors who studied the effect of the various methods of execution

The moral and actual complicity in crime of some of the medical profession in Germany can be established, and incriminating evidence can be collected on the spot

Further, not only were the majority of German physicians Nazi sympathizers but for reasons involving their career they even placed their services at the disposal of the Nazis

In contrast, other high ranking surgeons resigned from their posts and retired to private life or practice Professor Voelcker of Halle and Professor Ranzi of Vienna were among these. Professor Thierry de Martel of Paris committed suicide when the Germans entered Paris rather than lend his skill to the conquerors.

There is no doubt that the International College of Surgeons has to face its special duties and do something to forestall forever such occurrences by men holding themselves out as members of our profession.

Now you have read, and perhaps wept at heart or actually shed a tear or two, and now it is time to ponder.

As shown, some of the medical profession in German-controlled territory (and to call it "German" is equivalent to terming it "Nazi" for the two were — and are — synonymous and interchangeable) respected the Hippocratic Oath and remained loyal to its precepts.

This rather small coterie, however, seems but chaff in the gale of pestilence and plague that blew from the Führer's heights in Berchtesgaden, contaminating like the Black Death every disciple of Aesculapius it so much as passed by.

Even before these communications reached the editorial desk of this journal, revelations made by press, radio and personal communication had decided some of us that in this resumption of international scientific relations with European countries, Nazidom must be sifted thoroughly to separate the guilty from the relatively nonguilty. Any defense that the medical and surgical profession in Reich territory would attempt to make, in view of existing incriminating truths, would be only a pitiful begging of the question. As blood-crazed as were the jackals who were their masters through disseminated knowledge, the refinements of Nazi insults and depravities performed upon human bodies and human minds attained a perverted cruelty of bloodlust that bygone Chaldea and ancient Africa and even the pits of Hell must envy!

These refinements of insult and depravity performed upon human bodies and minds were products of the Nazi scientific mind. The German has always had a marvelously ingenious and scientific mind, fortified by his passion for meticulous detail. Having become, by Hitler decree, a superman, with no restraining influence upon him since he was lord of all he surveyed, the German Nazi found no reason why he should wear a bridle or even a halter, and accordingly let himself go. The peasant expressed himself by such tricks as peeking into latrines and watching captive women heed the call of Nature, or by rough and brutal rape, or by desecration of churches and clean homes—and even human beings—by excrement. Those on higher social levels wanted their bestiality done up in silk, calling on their magicians—the scientists—to find new ways to pull rabbits out of a hat, for, weakened by their own perverted appetites and crimes against nature, a potent spur was needed.

Not a single man who had ever taken the Oath of Hippocrates can find a scintilla of excuse for connivance with Nazi perversion and sadism, but it is to be expected that, by lies and evasions and trickery, the surgeons who flaunted the Nazi gonfalon will attempt to effect restoration to the ranks of the ethical and clean.

Let it be firmly agreed upon, then, that when surgeons from every land finally can come to the conference table for an interchange of experience and of knowledge, there shall be no taint of what Homer spoke of as "swine about the board." There must be no place at that table now or in years to come for those guilty of such bestial crimes against our profession and against humanity.

We must be just, but it is well to remind ourselves that, for men of our profession especially, justice is not enough It is not enough to bar our doors against the doers of this evil In the rise and spread of the evil epidemic of Nazism is the old, old challenge to the healers of the world How shall we restore the sick? How shall we strike at the roots of the evil so that the plague shall never again sweep the earth?

For those ravaged by the disease, including men of our own profession who have gone down to disgrace and dishonor under its attack, there may be little we can do Probably we shall have to recognize their madness as akin to other mental aberrations of similar violence and perverseness We can and we should try the best of modern methods to effect their isolation and their reeducation But we shall recognize sadly that the possibilities of restoring most of them to the full and effective use of their capacities is indeed small The disease which has had them in its grip has left its indelible mark upon them The hard fact which every doctor faces again and again—that "forgiveness of sin" does not mean sin's erasure—confronts us here in a new and terrible form

The hope—and the great challenge—lies beyond the lives of those one time brothers of ours, beyond our own lifetime We must begin now to learn to protect our profession and the world it serves against a recurrence ever again of this devastating sickness Our sole therapeutic armamentarium consists of exposure, ostracism, reeducation of those not hopelessly contaminated by the Nazi virus

Psychologists and pathologists alike have new responsibilities laid upon them Medical research must turn to the examination of the disease, must bend every resource to discovering and isolating and destroying its virus We must know the early symptoms warning of its approach We must find the means which will check its advance We owe this to ourselves, to the honor of our profession, and to mankind

We shall find, I am sure, even before our researches have gone very far, that this great madness, this dread disease, is not unlike other diseases the flesh is heir to in that it gains access to the human mind and body at points already weakened And here is the greatest, most universal challenge of all Could the wholesale corruption of German medical men have happened if there had been no chinks in the armor of their professional ideals and ethics? The same kind of chinks which we are all too prone to overlook in our fellow medical men—and especially in ourselves Through the horror and disgust filling our minds as we read the record comes a disquieting still small voice There, but for the grace of God, *go you yourself* That voice should be heeded now, by every one of us The great vows of our profession should be renewed in our hearts

We serve a high calling, one which lifts the greatest majority of us, far beyond the cheap and petty things of life But, shameful though it is, we must remember that even here, in this, the most truly free land on earth, there are a few, even among our own—even among those whose blood and heritage are above reproach—who would deny equality to their fellows, those who—in some instances, precisely *because* of such blood and heritage—feel that they belong to a world apart, a sphere a little better than the common run So much the worse—for, in such reaching after a social isolationism which our founding fathers sought in their wisdom to abolish, they are propagating and perpetuating a myth of spiritual superi ority, which in its way, is quite as evil, and far more insidious, than the festering Nazi viciousness.

These self-styled "supermen" upon whatever their claims to such superiority may be founded are actually seeking, no matter how steadfastly they may deny, even to their own hearts, such an intent, by slower and more devious means, to effect a degradation of men's minds, which, in its end results, could do quite as much harm as the poisonous Nazi ideologies.

Yes, truly we do serve a high calling. Its standards of ethics and of humanity are not be trifled with. The Nazi doctor, his hands red with blood, has taught us that.

Finally, let us be ever conscious of those with whom we associate, with whom we break bread and whom we recognize as civilized men and colleagues. "Show me the man you honor," said Carlyle, "and I will know what kind of a man you are, for it shows me what your ideal of manhood is, and what kind of a man you long to be."

MAX THOREK.

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NOTICE

Fellows of the International College of Surgeons and their wives, attending the American Medical Association meet at San Francisco, are invited to a luncheon and drive through the countryside to St. Gothard's Tavern in St. Helena, Napa County, California on July 4th at 12 o'clock. Transportation will be furnished by the San Francisco and Los Angeles Guilds of the International College of Surgeons. For details write Dr. Felix Cunha, 450 Sutter Avenue, San Francisco, California.

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(Continued from page 361)

Автор не считает преувеличением [illegible] вержение всех больных 40-45 лет рент[illegible]нографии желудка каждые шесть [illegible] цев или, по крайней мере, каждый [illegible] как единственный способ раннего [illegible] тия рака желудка.

Для хорошего результата [illegible] подготовка больного при [illegible] рекции физиохимических [illegible] [illegible] больным послеоперативн[illegible] [illegible] ляются более суще[illegible] [illegible] степенная операционная [illegible] подготовленным боль[illegible] [illegible] печить возможность пол[illegible] [illegible] все четыре зоны лимфа[illegible] [illegible] частота должны быть ре[illegible] [illegible] несмотря на отсутствие [illegible] лимфатических желез.

Mexico and the Latin Americas

WILLIAM SEAMAN BAINBRIDGE A M Sc D M D C M F I C S
NEW YORK CITY

REAL inter-American friendship had its inception not so much through trade or politics or diplomacy, as through sanitation, manifested by the accomplishments of the Panamerican Sanitary Bureau and other agencies, preceded by the great work of Gen. Gorgas and others. By sanitation, we mean all that concerns *the life and health of the individual, the community, or the nation.* We Americans of the north, more favored than our brothers in the other Americas along many lines, extended to them a helping hand which was grasped by them in a cooperative spirit. Our twenty-one republics have proved that there can be successful unity of effort without organic union. Despite differences in creed, color, race and language, we are something of a benevolent association, and in the spirit of "give and take," may be an example that nations can work together in harmony and peace. As the president of one of our neighboring republics said to me, "We *need you and you need us, for the long* pull ahead." *How true this is!*

We must bear in mind that the other Americas, particularly Mexico and Central America, have sections where there is a tropical or semitropical climate, with jungles, inaccessible mountains, vast areas of desert land wholly lacking water. The main bulk of the population is poor, there exist illiteracy, fanaticism and disease. Yet you will also find beauty there. Those of us who long for the Alpine peaks of Switzerland, the glaciers of the Engadine, the charm of the Dolomites, the lakes of Italy or of England, the beaches of the Riviera, the boulevards of Paris, the archeological museums of London or Cairo, will find that all of these have their counterparts below the Rio Grande. If you are looking for great Universities and centers of learning, you will find these also.

Good neighborliness may bring repercussions from the medical, surgical and sanitary standpoints, for if there is much travel back and forth, certain *transplanted diseases, modified* perhaps by changes in climate, nutrition, conditions of living and individual resistance, will have to be combatted. This, of course, is a point that will require more attention as our fighting men come home from far-off lands, or disease-ridden islands.

Although the primary cause of much of the regional disease of the other Americas is the lack of sanitary conditions, the majority of Indians living by themselves whom I examined, had for example, splendid teeth and healthy gums. The sunlight in which they live, the limes and limewater they use in their cooking, the oranges, avocadoes, *mangoes, bananas, etc.,* which they seem always to be eating, their use of whole grain, save them from certain deficiency diseases with which we, less primitive in our living, are all too familiar, as are those Indians who, residing nearer cosmopolitan centers, partake of more refined foods.

Certain Indians of the middle Americas, so I was informed when I visited these lands on a government mission,

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Read at Banquet Meeting of Tennessee Division, U. S. Chapter, International College of Surgeons, Knoxville, Tenn., June 8, 1945.

in order to avoid or cure anemia, punch rusty nails into apples, then eat the apples to get the benefit of the iron.

It is an interesting not commonly-known fact, that the Dominican Republic had a hospital before 1503 and a School of Medicine in its University which was founded in 1538. Puerto Rico founded her first hospital around 1511, Panama about 1521. In Mexico City there exists the oldest functioning hospital in all the Americas, with modern equipment and methods, which was founded by Cortes in 1524. Also in Mexico, a chair of medicine came into being in 1580, as well as what was probably the first college for women *anywhere* in the world, in 1537. The oldest university on this hemisphere which is still functioning, is situated in Lima, Peru. This was founded in 1551.

I give you these dates not to bore you with numbers but with the thought that a little humility is good for the soul! In fact, one of our great radio commentators, Raymond Swing, has said that "to be brothers of the Latin Americans we in the north will need to wear the garments of humility, for the culture of the cultured in that part of the world is superior to our own." We hear much of the backwardness of some of these countries, but the progress that they have made to date in spite of almost insurmountable handicaps, challenges our admiration!

Many of our remedies of today are derived from the Aztec pharmacopias. The diet of pregnant Aztec women was very carefully regulated. Both the Mayans and Aztecs stressed the importance of the physical training of children. Vaccination against sm[illegible] began to be practiced in Guatema[illegible] eight years after Jenner intro[illegible] in England. In the mala[illegible] Islands where our men fought [illegible] battles were lost for the la[illegible] It is of interest to realize that this drug was first used by the Latin American Indians.

Perhaps you will be interested in a few observations that struck me as outstanding in some of the countries among the twenty to which my mission took me. I will not bore you with many.

In Guatemala, there is a Municipal General Hospital of 1400 beds. I learned that they cure or readjust about 40 per cent of their mental cases.

The treatment of the mentally sick in Costa Rica is very advanced. This is one of the problems so vastly accentuated by the war which we are having to face as our men are sent home. At the time of my visit, they had 700 such patients in the institution of whom they readjust 30 to 40 per cent. When a mentally sick patient enters the hospital, he is given an hypnotic and in two or three days is permitted slowly to come from under the drug. He is then put to work with the other inmates. The institution is clean and cheerful with many flowers about. There are no mechanical restraints and an atmosphere of freedom pervades the place, which I have never seen surpassed in any such hospital anywhere. They have [illegible] and chickens, all taken care of [illegible] patients, who also make them[illegible] As one who has been Sup[illegible] of a large hospital [illegible] for many years, I [illegible] impressed by this

[illegible] Republic has in its [illegible] of the best equipped, [illegible] rooms that I saw [illegible]try. This little nation [illegible] against tuberculosis, [illegible] leprosy and malaria. [illegible] months, motor cars are [illegible] a fine levied if each does [illegible] first aid kit. Considering [illegible] motor vehicle accidents we have in our own country, it might be wise for us to follow this example!

In many of the countries of Central and South America they are using good psychology in an attempt to avert motor accidents In some places, as we neared a sharp turn in the road we found a mound of earth with the dilapidated ruin of a car on top of it Here and there, high in the mountains along narrow winding roads, we came upon a small plot of ground with several crosses, showing the number of persons who had been killed on that particular spot

In some parts of Mexico, in the rural districts there was one doctor for from 5 to 10,000 persons during the years 1932 and 1936 In those years in towns of 10,000 or more, 86 32 per cent died without any medical diagnosis whatever In a remote region of the Yucatan nearly 77 per cent of the population never lived beyond fifteen years of age —just about the time when we are beginning to plan for the future of our children The government realized that something had to be done One of the solutions was to send senior medical students to communities where there were no doctors This takes the place of internship These men, living among primitive people, have to improvise their own clinics Another solution is to take poor but promising young men from the rural districts and give them free medical training with the understanding that they must return to their rural sections for at least five years after graduation These backward people, far removed from the cities, still believe in witchcraft, so progress is exceedingly slow

The United States does not have a monopoly on so modern a device as air conditioning In the large hospital in Caracas, Venezuela, the operating room is air conditioned When I was in Cuba I was very much interested to see a natural air conditioning system in use there The cancer hospital in Havana is the only one in the tropics so I was informed, that had been constructed with a plan in mind to secure the advantage of the winds which blow in one direction during the morning and in another in the afternoon—the hottest part of the day The great Finlay's son, by the way, whom I met, is a professor at the University of Havana

When calling on the Chilean Minister of War, I found him in the midst of translating our CCC (Civilian Conservation Corps) plan He was preparing to introduce a bill to have this plan adopted for Chile

Throughout the other Americas, I found that practically all instruments and equipment came from Germany The first reason for this, I learned, was that our prices were prohibitive by contrast The second reason was that our business men insisted on cash or thirty days' payment, whereas Germany allowed unlimited credit Most of the best schools were German schools, and most of the English language texts were translations from the German A European attitude of mind has been forced upon these people from youth up, because practically all books of education, of reference and research are Spanish translations from German or French There is almost complete absence of anything from North America For years, students, research workers and postgraduate students have been helped financially to go to Germany—certain ones fully financed—and given special opportunities Some actually discussed openly whether it would be more advantageous to be a colony of the Reich or of the United States In 1941, one or the other seemed inevitable In Ecuador, all the literature

(Continued on page 364)

Following are summaries of an article by Hugo Picard, M.D., Cairo, Egypt, entitled "Treatment and Prevention of Thrombosis with Dicoumerol," which appeared in our March–April issue.

SUMMARY

After a thoughtful review of the many possible postoperative complications and hazards, such as shock, circulatory and metabolic disturbances and infections, the author mentions the work that has already been done toward lessening these difficulties. He then describes the accepted theories regarding the action of the antiprothrombic drug, dicoumerol, and describes both its therapeutic uses, and those as a treatment for embolic and thrombic conditions already existing. He then cites a number of widely dissimilar cases in his own experience in which this drug has been used successfully.

SOMMAIRE

Après avoir fait une revue très réfléchie de tous les hasards et des complications post-opératoires, tels que choc, troubles métaboliques et circulatoires, l'auteur mentionne ce qui a déjà été accompli pour diminuer ces difficultés. Il décrit les théories acceptées concernant l'action du dicoumerol et l'action thérapeutique et cet agent. Ce médicament peut assi être employé dans le traitement de conditions tels que embolisme et thrombose existants. Il rapporte un nombre de cas dissimilaires dans lesquel il eut recours au dicoumerol et obtint des résultats satisfaisants.

RESUMEN

Después de un cuidadoso estudio de las diversas posibles complicaciones postoperatorias, tales como shock, transtornos circulatorios y metabólicos e infecciones, el autor menciona los trabajos que ya se han realizado para disminuir dichas dificultades. Luego entra a describir las teorías aceptadas en relación con el medicamento antiprotrombósico, el dicoumerol, y detalla sus usos terapéuticos y su empleo en el tratamiento de los estados embólicos y cronicos preexistentes. Finalmente, relata algunos casos de índole ampliamente variable en los cuales usó personalmente la droga con resultados satisfactorios.

(Continued from page 363)

published by the official travel bureau was in German with the two opening pages written by the president of that country. Happily, all this is now being changed.

Quite apart from the activities at Chapultepec and San Francisco, I believe that the awakening of our country to the needs of the other twenty republics on this continent, and of their understanding of what they can contribute to the good of all in a practical way, will have far reaching results. We are allies in the whole-souled fight against the trinity of sickness, suffering and death; in that battle there can never be a slackening, come peace or war. The universality of the healing art for the cause of humanity is a real foundation for a better world of tomorrow. While it is true that there is a nobility of heredity and a nobility of possession, there is no greater nobility than that of service. We as medical men have been given the greatest privilege of all, that of serving mankind.

The Artificial Pupil in the Restoration of Vision

DONALD T ATKINSON MD ScD FACS FICS
Fellow the Royal Academy of Medicine Ireland
SAN ANTONIO TEXAS

POSSIBLY there is no type of ophthalmic surgery so neglected as that indicated for the restoration of vision to sightless eyes resulting from corneal opacity or agglutinated pupil This fact, no doubt, is due to the numerous failures in the past which have followed this kind of surgery in which the results often served to terminate the previously hopeful attitudes of the surgeon to such an extent that, in similar future cases, operation was not advised Thus this type of surgery has fallen more or less into disuse But, regardless of these unfortunate incidents, there are apt to be found annually in the practice of any busy ophthalmologist, a number of cases in which, by doing iridotomies or iridectomies, when a normal iris exists behind the cicatricial cornea in which a small transparent area remains, some degree of satisfactory vision may be obtained

A recent American surgical textbook[1] gives a synopsis of a series of cases of blind eyes in which, by making artificial pupils, I was successful in restoring vision—not, however, by any original technic upon my part Since these cases were first reported, I have performed several times this number of operations for similar conditions using practically the same methods I have, also, in several instances created central pupillary openings in agglutinated irides of aphacic patients by a method which, so far as I know, is original with me, the technic of which I shall discuss farther on in this article

Description of the cases alluded to above, first appeared in print in my book, "External Diseases of the Eye"[6] They were, with one exception, blind in both eyes but with one eye operable, the vision in the other having been lost as a result of accident or disease These cases may be outlined as follows

Case 1 The first was that of a hospital nun 57 years of age The left eye of this patient was normal In the right eye however a dense central leucoma was present which obscured her vision except for light perception An optical iridectomy with the section made from nine to one in what would correspond to a clock dial though followed by a postoperative iritis eventually resulted in restoration of vision in this eye to 20/30 minus one

Case 2 The second case was that of a farmer 65 years old who lost his vision in the left eye at the age of 20 Four years before he visited me he had been the subject of a central corneal ulceration of the right eye the resulting scar tissue obscuring his vision since that time in this only seeing eye In this case a new pupil in the right eye made through an incision from seven to eleven resulted in useful vision Since the operation the patient states that he has been able to attend to his duties on his farm in a normal manner

Case 3 The third case was that of a young woman who had had ophthalmia neonatorum followed by frequent attacks of iritis in later years In the right eye she had a bulbous cornea with no vision In the left eye a partial leucoma existed About one half of the cornea was transparent but the pupil was entirely closed by organized exudates Some difficulty was encountered in engaging the iris with the knife during the performance of a Kuhnt s incision made from six to eleven of the clock dial After doing this I was able to grasp and snip off a portion of the iris The lens was spontaneously delivered Through the small pupil thus made

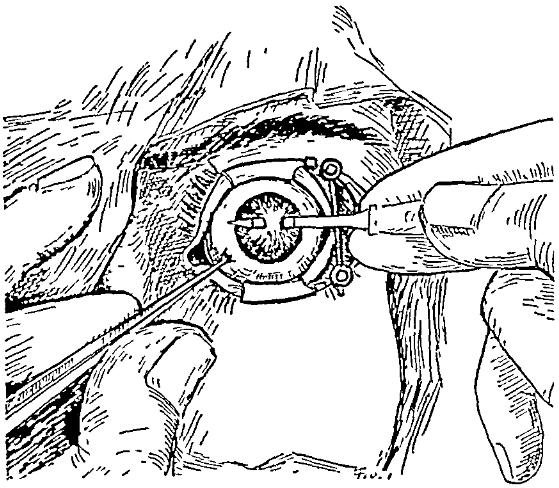

Fig. 1.—A Von Grafe knife, cutting edge downward, has been passed through the cornea at the temporal side at a point 4 m.m. from the limbus. It has further been carried through the iris adjacent to the sealed-over pupil and again has appeared in the interior chamber, after which its tip has been thrust through the cornea at the nasal side preparatory to making the section downward.

this patient, wearing her aphacic correction, acquired a degree of vision which enables her to do the housework for her family, to recognize her friends across the street and, as she states, "to thread a large darning needle."

Case 4. The fourth case was that of a 66 year old woman whose right eye had been lost during childhood as the result of accident. Ten years before being seen by me she had been operated upon for cataract in the left eye. The cortex left in the anterior chamber, together with an organized exudate of lymph which was due to a postoperative iritis, had since entirely occluded the pupil and obscured vision. Two operations for the relief of this condition had been done with no results. She was seen eight years after the last operation of this kind with only light perception remaining. By making a modified Kuhnt's section from ten to three of the clock dial and by drawing the obstructing iris into the wound and snipping it off a good pupil slightly above the center of the iris resulted. This patient obtained vision of 20/60 and with her correction for aphacia was able to read newspaper print.

It has been my observation that in cases similar to these, most gratifying results may be obtained by steps which may not seem conservative but by which, there being no useful vision, nothing is to be lost, with the possible exception of a sightless globe. While all cases requiring iris surgery are not so simple as the cases alluded to, they may be classified about as follows:

First, are those cases in which the pupil, due to a previous iritis, is adherent to the anterior capsule of the lens, this contingency obliterating the pupil by organized lymph.

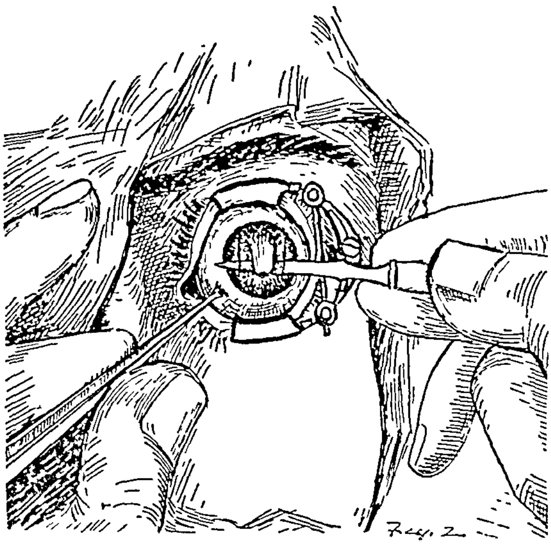

Fig. 2.—The knife, as seen in fig. 1, has been carried downward, the section embracing the cornea as well as the iris adjacent to and including the sealed-over pupil. The taut iris is about to give way before the cutting edge of the knife.

Second, are the cases resulting from injury, in which corneal wounds have incarcerated the iris, terminating in drawn-up and sealed-over pupils.

Third, are those due to central opacities of the cornea as end results of ulcerations, most of such cases being due to gonorrheal infection.

Fourth, are postoperative occlusions of the pupil occurring in cataract cases or in patients in which the cornea and iris had been incised for some reason, and in which exudates later formed in the anterior chamber and there became organized.

Eyes of juvenile patients falling within the first classification may be benefited by a dicission of the lens preceded by an iridocapsulotomy. In such patients, absorption of the lens may be looked for after the capsule has been ruptured.

In the eye of an adult with an adherent iris and the pupil entirely occluded by being sealed over by exudates, it would be useless to expect vision from a central opening made in the iris, unless the crystalline lens were also extracted, as the capsule (necessarily interfered with) would immediately subject the lens to a cataractous process. With eyes of this character, the best results may be expected by making a section similar to that adapted to cases of uncomplicated cataract. The primary incision may be made with either a keratome or a Von Grafe knife carried downward into and through the iris below the pupil. The portion to be removed will then be elevated by means of a capsule forceps after which it may be snipped off with a small, thin-bladed scissors The lens may then be removed in the usual manner. If properly done, this operation will leave rather a satisfactory central opening in the iris which will probably be accompanied by beneficial results.

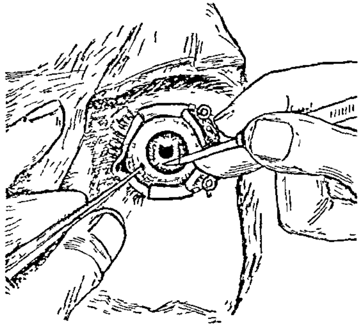

Fig 3 —The corneal and iris section has been carried downward and the iris has been divided, the iris flap has retracted itself, thus leaving a satisfactory pupillary opening The knife is being withdrawn

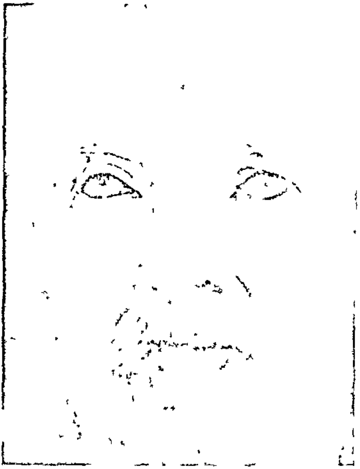

Fig 4 —Aphacic patient, age 81, upon whom the first combined corneal section and iridotomy was performed The operated eye regained vision of 20/40; the opposite eye was sightless

Where the pupil is found to be closed by a prolapse of the iris into a corneal wound, as in the second type of cases, or into an opening in the cornea resulting from a perforating ulcer, it is comparatively easy to detach the iris from the cornea without creating an injury to the capsule of the lens. This may be accomplished through a much smaller corneal section than the one indicated for a cataract extraction. After the incision has been made in the cornea, an iris forceps grasps the attached portion of the iris, after which it may be gently pulled through the corneal wound and excised. Usually this will leave an opening in the iris of sufficient size to promote vision and will be followed by good results.

The largest number of cases with which we will be confronted, will fall under type three of the preceding classification. It is in cases of this nature that we may expect our most gratifying results. A severe corneal inflammation may often occur without any untoward effect having befallen either the iris or the crystalline lens. The only indication which presents itself in an eye thus involved, providing a clear area of cornea remains, will be that of a simple iridectomy. In cases of opacity of the cornea obscuring the pupil, when a small portion only is sufficiently clear to permit of the admission of light, the section should be made slightly beyond the sclerocorneal margin. This is for the very evident reason that, should the section be made a millimeter or two inside the limbus, the resultant corneal haziness may so effect future vision that the object of the operation will be entirely defeated.

Kuhnt's operation for making a permanent opening through an iris which has been complicated by an agglutinated pupil, as in type four, is an easy procedure to carry out and one that will usually promise better results than when any other method is employed. In doing this type of operation, a Von Grafe knife may be carried through the cornea and made to perforate the iris. The knife is then thrust forward six or eight millimeters, after which the blade is elevated slightly and advanced, in order to make a counter puncture in the iris. The section in the cornea, including the iris, is now finished in the usual manner. An iris forceps grasps the iris; a portion of it may then be slightly withdrawn and snipped off. The section may be made downward if the clearest area in the cornea is in that direction.

For the fourth type of agglutinated pupil caused by the adhering of the iris to the lens capsule in aphacic patients, I have, on various occasions, obtained a large permanent pupil by a method which I believe to be original. The technic of the procedure which I have adopted, with certain variations required by each individual case, is as follows:

> Let us presume that the operation is to be performed on the left eye. A Von Grafe knife, cutting edge downward, will be inserted through the cornea about four millimeters from the sclerocorneal margin and at a point corresponding to two on the dial of a clock. With the iris then engaged by the knife, the section, after the counterpuncture in the cornea is made, is slowly carried downward. Soon the taut iris gives way and gapes, due to its inherent elasticity; an artificial pupil is thus created. The iris will usually be cut through and will gape, before the corneal section, as it is carried downward, gets beyond points corresponding to four and eight of the clock dial. The knife is then withdrawn.

It should be remembered that an artificial pupil should be made as near to the center of the cornea as possible. The configuration of the normal cornea and the crystalline lens make this advisable. A new pupil at the periphery gives rise to "dazzling" vision. Therefore, what would correspond to areas between two and five or between ten and seven of the dial of the clock, and as near to the center of the cornea as possible, must be considered the most favorable locations for the formation of a coloboma for visional purposes.

An iridectomy should not be performed in the absence of sufficient light perception. If an area of clear cornea exists, and if the iris beneath this transparent portion is normal in luster and is not adherent to the cornea, the case may be considered favorable for surgical interference Then, if the patient can distinguish the shadows of the hand when it is passed between the eye and a light, one should feel quite confident that an iridectomy for optical purposes would be likely to lead to good results

CONCLUSION

(1) There is no type of eye surgery so neglected as that for the restoration of vision, in cases of sealed over irides *or of central scarring of the cornea* This is due to the frequent disappointments following surgical interventions upon cases of this type, particularly in instances in which the lens capsule and the iris were adherent over large areas

(2) As a result of operations done with a minimum amount of risk, comfortable vision may often be brought *to patients whose visual usefulness had long been lost*

(3) Sites for operations, with a view to creating colobomas for visual purposes, should be selected, when possible near the center of the iris rather than at the periphery to prevent the "dazzling" which sometimes occurs where peripheral colobomas are made In adult patients with iridolenticular adhesions, the lens should be extracted, *otherwise cataracts will immediately* follow the operation In children, where iridotomies are done, a discission of the lens only, is indicated as rapid absorp*tion of lens tissue will follow*

(4) In cases of central corneal opacities, behind which are normal irides, an iridectomy of the classical type is a simple performance which nearly always results in great improvement in vision

(5) I have been the originator of a simplified method for creating central openings in the iris in aphacic cases in which the iris had been sealed over by exudates This consists of a corneal section in which the knife, cutting edge downward, is made to penetrate the cornea 4 mm from the limbus, after which it is forced through the iris and passed 6 mm forward where it again enters the anterior chamber, after which the counter puncture in the cornea is made at a location similar to that of the initial puncture The ensuing section is not to be finished, as the elasticity of the iris will cause a coloboma to occur before the section reaches more than a few millimeters downward The knife is then withdrawn from the unfinished section The artificial pupil thus made will be near the center of the iris, a location which is most favorable

SUMMARY

The author cites earlier failures in attempts at the construction of an artificial pupil, as the probable reason for the present neglect of this important procedure He mentions several series of his own cases, which have been successfully operated upon, and gives a simple description of two operations, one his own technic, for restoring at least partial vision to those who have lost all except light perception through injury, iritis or other causes He reports three cases

SOMMAIRE

L'auteur nous cite les insuccès qui dans le passé été la construction d'une prunelle artificielle furent fréquents Il rapporte plusieurs séries de ces cas personnels opérés avec succès Il nous donne une description de deux techniques opératoires, une de ces techniques est la sienne, qui rétablissent une perception partielle de la vieu chez ceux qui ont perdu toute perception de la

(Continued on page 388)

Ligation Treatment for Varicose Veins

An Estimate of the Present Status of This Method

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As we review the literature on the treatment of varicose veins, we find that progress has been made as the knowledge of the pathological anatomy and physiology of the venous system of the lower extremity became better known and suitable sclerosing solutions developed. The results of treatment, either by surgery, or injection, never were satisfactory. It was not until 1930, when de Takats described ambulatory ligation at the saphenofemoral junction, combined with retrograde injection, that an effective method of treatment was first described in this country. Much progress has been made since that time.

Failures in the treatment have resulted either from lack of knowledge of the pathology present or inability to determine before operation the requirements in each individual case. The literature is full of descriptive anatomy of the venous system of the lower extremities, but this is cadaver dissection, not dissection of living legs with distorted, dilated veins, destroyed valves and reflux of blood through incompetent perforating branches. It is good to know that there are usually 3 main veins emptying into the saphenous near its femoral junction, and that these must be tied and cut—but it is more important to realize that a reflux from the deep system of veins may occur at the midthigh, the knee or lower, and that each of these must be located before operation, ligated and cut, if you are to get good results with the operation.

The veins of the lower extremity are arranged in three sets, superficial, communicating and deep. All are protected by valves the purpose of which is to maintain the venous return in one direction, i.e., from below upwards. In varicose veins, this normal flow of blood is reversed and is from above downwards. This is caused by absent or incompetent valves in either the superficial, the communicating or the deep veins. From postmortem study, it is known that in 25 per cent of legs dissected, there is a congenital absence of the valve at the saphenofemoral junction, thus predisposing to the development of varicose veins. Other causes are the lack of supporting tissue in the veins, thrombophlebitis or congenital weakness of the valves, made incompetent by increased venous pressure as in hard physical work, increased intraabdominal pressure or pregnancy. The lesser saphenous vein is reinforced with a firm band of fascia at its junction with the popliteal—apparently the reason it is so seldom necessary to ligate this vein. Incompetent perforating branches are the most important causes of failure in the treatment. The common sites are just above or just below the knee, and above the ankle, but they may occur anywhere. The arrangement of the venous pattern is so variable, that no two legs are the same. Each case must be studied individually, and the pathology present determined and evaluated by certain definite tests that have already been developed and described.

The Trendelenberg, the first of these tests, was described in 1891, it is still one of the most important It is a demonstration of reversed venous flow and also of the competency of the valves of the communicating veins With the patient on his back, the affected leg is elevated to empty the veins Pressure is then made with the fingers to occlude the terminal saphenous (the location having been previously determined), and the patient asked to stand If the veins below do not fill within 30 seconds we consider that there is no reflux from the deep circulation, and that competent valves are present The pressure on the saphenous is now removed, if there is rapid filling of the veins, there exists a reflux of blood due to the absence or incompetency of the protecting valve at the sapheno femoral junction Such cases are said to be "Trendelenberg positive" If no reflux occurs, the case is "Trendelenberg negative" If there is rapid filling of the veins from below on standing, with further distension of the veins with removal of the pressure above, the case is "Trendelenberg double positive"

The Perthes' test is a test of the deep circulation Ligation or injection of dilated varicose veins in the presence of deep thrombosis and incompetent deep circulation will aggravate the existing pathological condition, since, in these cases, the dilated veins represent a collateral venous circulation that must be maintained The test is performed by elevating the leg to empty the veins, and applying a three inch rubber or elastic bandage from the toes to above the knee The patient then walks for about thirty minutes Aching calf pain and cramps in the foot and calf indicate an insufficiency of the deep circulation—an indication of "Perthes' positive"—and only supportive measures are to be used in treatment Another application of this test is to stand the patient so that his veins fill up, then apply a tourniquet at the groin The patient now walks back and forth If the veins empty or become considerably softer, the test is "Perthes' negative," an indication that the deep circulation and its valves are functioning properly The direction of blood flow is from the dilated veins, through the communicating veins to the deep veins If, on releasing the tourniquet, the veins fill rapidly from above, there exists a reflux at the saphenofemoral junction—another indication of "Trendelenberg positive" If, however, after walking with the tourniquet in place, the veins become more prominent and more tense, it means that there is a reflux from the deep veins due to incompetent valves or a deep seated thrombosis This latter condition must then be ruled out by the method described above

The Mahorner Ochsner Test is a modification of the Perthes' Test It has the advantage of showing at what levels the incompetency of the communicating valves exists, by applying the tourniquet at successively lower levels of the thigh and having the patient walk, observing the size of the varicosities at each level I use the same principle, except that I apply the tourniquet below the knee first, and have the patient walk If the veins empty, you can be reasonably sure that no reflux is occurring below that point The tourniquet is then applied at successively higher points In this way the lowest point of reflux, if any, can be determined and marked Another way of corroborating these findings is by the Multiple Tourniquet Test, in which the patient lies down, elevates the affected leg to empty the veins, after which tourniquets are applied below the knee, above the knee at the mid thigh and at the upper thigh On standing, the lowest tourniquet is removed first, the veins being observed for an ount of filling, as each tourniquet is removed. It may be necessary to reapply two tourniquets at various levels to check exact location of each perforator.

Adams described the Coughing Impulse Test, based on the observation that on increasing the venous pressure by coughing, a thrill or vibration is felt over the saphenofemoral junction when the valve is incompetent. He felt that, at times, the saphenous valve might be competent to standing pressures and give a negative Trendelenberg, but with the added strain of a cough, reflux would occur in borderline cases. This gives very valuable information. Where positive, the exact location of the terminal saphenous is quickly determined, especially in obese patients; also its condition, i.e., thickened, dilated or thinned out. By sliding the palpating fingers down the vein and having the patient cough, the presence of the venous thrill may be located at various points along its course. By applying pressure over the terminal saphenous and repeating the cough, the disappearance of the thrill below signifies that the reflux at the saphenofemoral junction is the only cause. However, if the thrill persists at a certain definite point, then there is a direct communication between the deep femoral vein through the communicating vein to the saphenous. Knowledge of this is very important, for unless this perforating vein is ligated, the treatment will be doomed to failure. This test is also of value, when positive, in those cases of superficial thrombophlebitis of the calf where there is pain at the site of the phlebitis on coughing. If pressure on the terminal saphenous causes disappearance of the pain on coughing, high ligation will result in almost immediate relief of pain, and rapid clearing up of the thrombophlebitis.

The Schwartz Test uses the same principle of wave transmission by tapping the terminal saphenous and feeling the impulse along the course of the vein. One of the most important tests is, what I call, the Reversed Schwarz Test. It gives information as to the condition of the saphenous system. With the patient standing, the fingers of one hand are gently placed over the terminal saphenous, and a brisk tap is made over each group of varicosities. The feeling of the transmitted wave at the groin signifies the presence of an uninterrupted column of blood with non-functioning or absent valves between the point tapped and the terminal saphenous. Where no impulse is felt, there is no direct communication between the group of veins below and the main saphenous trunk. With this method, a large grape-like varicosity at the calf, without any other visible varicosities on the entire leg, can be found to communicate directly with the upper saphenous, and high ligation will cure it.

If these few basic tests are properly applied and interpreted in each case, it is possible to classify practically all cases of varicose veins from a clinicopathological standpoint, and apply the proper treatment for each individual case. Only in this way will the highest percentage of cures be obtained and recurrences reduced to a minimum.

I should like to present the following classification, which covers practically all types of cases, with the treatment indicated in each group:

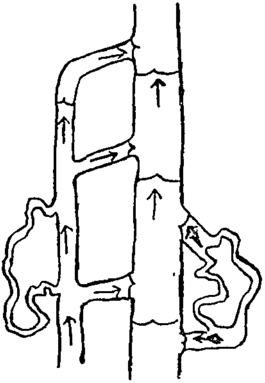
Group A—

> Legs with superficial varicosities along the greater or lesser saphenous veins; Trendelenberg negative, Perthes' negative. Treatment is by injection only and is effective as a cure.

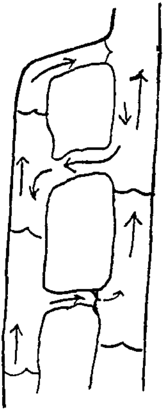
Group Aa—

> Legs are Trendelenberg negative, Perthes' negative; Mahorner Ochsner positive because of a single point of

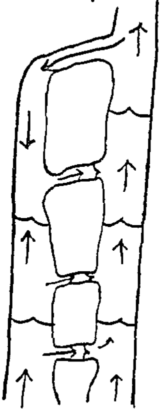
Group A



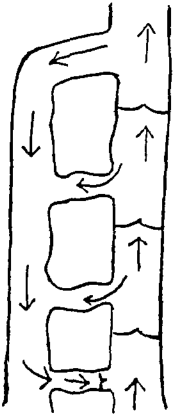
Group Aa



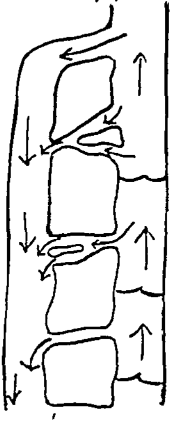
Group B



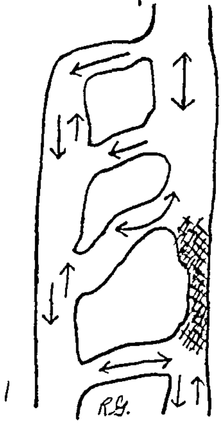
Group C



Group D



Group E



reflux at mid-thigh or knee Treatment is by ligation at point of reflux plus proper ligation at saphenofemoral junction to insure against recurrence from possible collateral [illegible] [illegible]iate or delayed injection [illegible]

Group B—

Legs are Trendelenberg positive, Perthes' negative. Treatment is by proper ligation at saphenofemoral junction, with immediate or delayed injection.

Group C—

Legs are Trendelenberg double positive, Perthes' negative; Mahorner Ochsner positive at one or more definte places. Treatment is proper ligation at saphenofemoral junction without injection and supplemental ligation at site of each perforating branch. Injection is immediate or delayed.

Group D—

Legs are Trendelenberg double positive, Perthes' negative; Mahorner Ochsner positive with so many points of reflux that it is impossible to find them all. These are the long neglected cases. Results in this group are poor, although some relief is offered by ligation at the saphenofemoral junction. Injections may give temporary thrombosis, but recurrences are common. Radical operation using multiple longitudinal incisions, and ligating each group of perforating branches has been advocated by Linton, but I have had no experience with this method.

Group E—

Legs are Perthes' positive. Treatment is supportive only, using elastic stocking or bandage.

The technic of ligation at the saphenofemoral junction, properly done, is not easy. It requires meticulous and thorough dissection. Nor is the operation without hazard. The greatest danger [illegible] hemorrhage, due to tearing of [illegible] saphenous or injury to the f[illegible] vein by tearing or tying. The op[illegible] should be done in the hospital[illegible] case must be reexamined and [illegible] before operation, and the [illegible] terminal saphenous ma[illegible] patient standing, a [illegible] marking its course, and [illegible] scratch, as high as possible, marking the site of incision. The site of each point of reflux must also be marked with the patient standing with a similar cross.

When the patient is on the table, the affected leg is elevated and the dilated veins are thoroughly emptied. At this time, it is impossible to locate the points of reflux unless properly marked. It has been my experience that the oblique incision as close as possible to the groin crease is the most practical. With a 2 inch incision exposure is adequate, and retraction upwards and downwards can be made if necessary. Anesthesia is 2 per cent novocaine, infiltrated along the line of incision, and in a V shaped area above and below to make retraction painless. The incision is carried through the skin; the subcutaneous fat is separated bluntly with a small curved clamp, being careful of the thin walled superficial venous plexus sometimes found under the skin (especially in obese patients). With retraction upwards and downwards, the terminal saphenous will be found to lie just under the deep layer of superficial fascia. This may be quite adherent in cases of long standing ulcer or phlebitis; it must be carefully separated from the vein to avoid tearing it with resultant very profuse [illegible] The saphenous may be [illegible] if handled carelessly [illegible] will rupture easily. [illegible] very thin and dilated, [illegible] the lower edge of [illegible] expose the vein lower [illegible] completely from the [illegible] tissues, double clamping [illegible] traction is then made on [illegible] and the vein is elevated [illegible] dissecting the sur[illegible] away bluntly, exposing, [illegible] all branches until [illegible] of vein are exposed. In [illegible] deep communicating branch [illegible] to the fascia of the thigh, if present, may be detected and ligated The saphenous is ligated as low as possible with no 1 silk, and the 2 inch segment of vein excised The dissection of the upper saphenous to its junction with the femoral requires careful and delicate dissection Each branch must be exposed, doubly tied and cut It is essential that the saphenofemoral junction be visualized and exposed At times to do this is difficult and dangerous, but it must be done, for very often one or two large veins empty into the saphenous just proximal to the junction, failure to recognize and tie these off will result in time in reestablishment of the saphenous system I have had occasion to reoperate two cases that had had a previous high ligation, in both cases, recurrence was due to failure to find one high branch No attempt to name the branches should be made, just be sure that every one is ligated and cut The saphenous must be tied off as close to the femoral as possible, without encroaching on or injuring the latter Heavy no 3 silk is used, a bite taken into the adjacent deep fascia helps transfix the suture A second suture is taken through the vein about 1 centimeter distal as an additional safeguard Care must be taken in tying so that no marked traction or sudden jerk is made, especially in thin walled veins, as tearing of the saphenous bulb, or even the femoral may cause profuse and frightening hemorrhage If this does occur, pressure with the finger will control the hemorrhage until the femoral is exposed and ligated above and below There should be no hesitation in doing this, if necessary, as no untoward results occur except some troublesome edema for a few weeks, which will gradually disappear

Retrograde injection at the time of high ligation is still being done, but I believe it is now the consensus of opinion that this is not necessary It has been my experience that unless a perforating vein has been overlooked, spontaneous thrombosis occurs in the thigh in the majority of cases when a high ligation has been properly performed This avoids the severe reactions and pain that are so often seen, especially where the varices are very large Patients are more comfortable and are able to return to work much sooner If thrombosis is not complete or does not occur, a subsequent injection in a week or two is usually effectual In the meantime, the marked dilatation of the veins will have disappeared Below the knee, however, injection may be done at the time of operation, but here too, it may be delayed, depending on the experience of the surgeon My rule is, if the veins are markedly dilated, "no immediate injection "

Supplemental ligations for the deep perforating branches are performed at the previously marked sites Novocaine skin infiltration is used, the incision is about three fourths inch long The subcutaneous fat is spread apart with a small curved clamp, whereupon the vein can readily be seen, lying in the wound It is grasped and brought out, doubly clamped and cut, and each end elevated and freed as far as possible from surrounding tissue, ligated, and the excess venous substance removed The deep perforating branch can usually be seen on the upper segment, this is also tied and cut The ends of the vein are allowed to drop back, a single silk suture closes each wound

Following the operation, the leg is again elevated to empty it of venous blood, a snug gauze or flannel bandage is applied from foot to mid thigh The patient is made to walk at once in the operating room This helps prevent
blood from accumulat ilated
veins, and the mu eps

them fairly empty; nor will thrombosis be as massive or painful. These patients are made ambulatory at once; they are advised not to lie down for more than a few minutes for about eight hours after operation. This tends to prevent extension of the thrombosis through the communicating to the deep veins, and is an important factor in the prevention of embolism. Pain is relieved by codeine and aspirin. The sutures are removed on the fifth day together with the bandage; injections, where necessary, may be started in 2 weeks. Most patients can be back at work one week after operation.

SUMMARY

After a review of the literature on the subject, the author suggests some reasons for failures in this type of treatment in the past. He then gives a brief outline of the anatomy of the venous system of the lower extremity, and follows with descriptions of various tests to determine the extent and character of reflux circulation, together with his own modifications of these tests. He groups patients with various combinations of test reactions both tabularly and by diagram. The balance of the article describes in detail the author's operation for ligation of the saphenous vein at the saphenofemoral junction.

SOMMAIRE

Après une revue de la litterature du sujet, l'auteur suggère quelques raisons pour l'insuccès de cette méthode de traitement dans le passé. Il nous donne une brève revue de l'anatome du système veineux de l'extremité inférieure. Il nous donne aussi plusieurs tests pour déterminer la nature et l'ètendu de la circulation reflue, et aussi certaines modifications personnelles qu'il a apportees à ces tests. Il groupe ses malades d'après ces tests enshcémas et en diagrammes. Il décrit son opération pour ligature de la veine saphène à la jonction de la saphène et de lâ fémorale.

RESUMEN

Después de pasar revista a la literatura sobre el tema, el autor cita las razones que estima responsables del fracaso de esta técnica en el pasado. A continuación describe en cierto detalle la anatomía del sistema venoso de la extremidad inferior y analiza algunas de las pruebas empleadas para determinar la extensión y caracter del reflujo circulatorio, conjuntamente con sus modificaciones personales a dichas pruebas. Agrupa a los pacientes de acuerdo a los diversos tipos o combinaciones de recación a la prueba empleada. En el articulo se describe con todo detalle la operación del autor para la ligadura de la vena safena en la unión safeno-femoral.

Свод.

После обзора научной литературы о лечении варикозных вен лигатурой, автор выражает свое мнение о причинах неудачи этого типа лечения. Он дает в общих чертах анатомию венозной системы нижней конечности и затем описывает разные способы определения степени и характер отливного кровообращения, а также и его собственные модификации этих способов. Таблицами и чертежом он группирует больных согласно комбинации их реакции. Остальная статья посвящена подробному описанию его операции лигатуры venae saphenae [illegible] соединения с vena femoralis.

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(Continued on page 388)

Evaluation of Methods of Study of Peripheral Vascular Circulation*

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THE purpose of this paper is to attempt an evaluation of the simpler methods of examination of the peripheral circulation. In view of the space available we cannot hope to cover the entire field of vascular diseases more than superficially. We have therefore chosen a specific problem, namely — advanced organic arterial occlusion with actual or impending gangrene.

During the past two decades, the *management* of these cases has changed from being a matter of the individual surgeon's experience and intuition to one of careful study of the state of the circulation performed routinely prior to surgical interference. We are now able to foretell with a fair degree of accuracy whether or not surgery is indicated, and if so, at what level it should be done.

In the order of their importance, the methods of examination referred to are: (1) *Careful history taking and detailed clinical examination.* These should include information on the age and sex of the patient, the presence or absence of true intermittent claudication, the time of onset of symptoms and their character, all of which play an important rôle in establishing the diagnosis. The presence of other diseases which may bear an etiological relationship to peripheral vascular disease must be carefully ascertained.

The presence or absence of pulsation in the accessible arteries, the condition of the skin, the effect on skin color of elevating and lowering the extremities and the type and location of gangrenous areas are of paramount importance.

It has been our experience that, in patients examined in this manner, the clinical diagnosis was shown to be correct in the vast majority of cases.

(2) *Oscillometry.* The next method of examination to be considered is oscillometry. The oscillometer enables us to observe the degree of pulsation caused by ventricular *contractions in the major* arteries. Obviously, any condition which diminishes the stroke volume of the heart or lowers the elasticity of the arterial walls, will depress the oscillometric index.

Unfortunately, the most sensitive of these instruments is rather crude and requires a relatively considerable pulsation of the artery to cause it to register. Not infrequently we have examined patients who have a zero index at the ankle level, yet *actually* have *sufficient* circulation to maintain the viability of the toes. The finding of a zero index near the knee, however, is another matter. In this case, the circulation is very seriously diminished, usually below the level necessary for maintaining tissue nutrition which, in the absence of collateral circulation, most often means tissue necrosis.

It is therefore possible for a patient to have a zero index at the ankle, have no palpable dorsalis pedis or posterior tibial artery and yet be in no immediate need of surgery. Patients in this category are usually suff[illegible] advanced arterial disease change in the arterial walls, sufficient blood is reaching the toes to keep them viable.

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*Read at the Ninth Annual Assembly of the American Chapter of the International College of Surgeons, Philadelphia, Pa.

A considerable drop in the oscillometric reading as one proceeds *down* the extremities indicates damage to the deep vessels, should the reading fall to zero in the neighborhood of the knee or elbow there is most likely a complete arterial occlusion. From the foregoing considerations, it must be evident that the oscillometer at best simply indicates the presence or absence of arterial disease and can be relied on merely to give some idea as to its severity.

(3) *Histamine test.* Another commonly used method of examination is the Histamine test. The technic of this test is the simplest of all. We use the method suggested by Starr, which consists of multiple intradermal punctures through a drop of Histamine Solution 1–1,000 at various levels on the extremities. The normal reaction is the development of a wheal and a flare which should appear within 5 minutes after the inoculation. One of the normal variations seen in this test is the absence of a flare, particularly around the ankle. It is well to inoculate your own hand during the test to be certain that the material is potent. Should the response above the knee be delayed, the patient's hand should be tested, since some patients, particularly the older ones, may have a generally poor response to Histamine. If these safeguards are taken, the test may be more accurately evaluated.

While it is true that the test reveals the state of the subcutaneous circulation, it seems to be a fairly reliable indication also of the degree of collateral circulation, in cases of organic arterial disease. It has been our experience that patients with severe arterial disease of long duration which does not produce actual gangrene, frequently show normal or only slightly delayed Histamine responses. In cases where occlusion is recent and gangrene progresses *rapidly, the Histamine reaction* is practically always absent. We interpret this to mean that the cases which become stabilized or improve, do so because of the development of an adequate collateral circulation. The cases *that deteriorate do not* have sufficient time to develop their secondary circulation.

(4) *Skin temperature.* Finally, a brief consideration should be given to the skin temperature. There are numerous types of instruments *that* were available (before the war) varying from very complex thermocouples to special mercury thermometers. Generally speaking, any instrument that gives fairly consistent readings on recheck of the same patient, is suitable; *the simpler it is to operate*, the better. We do not believe it necessary to do these examinations under mechanically controlled outside temperatures; it seems that any ordinary examining room where drafts are eliminated and which is neither too cold nor too hot for ordinary comfort, will suffice. The patient should be at complete rest for 15 or 20 minutes before a record is made. It is important that a record of the room temperature be *kept* during the examination for purposes of comparison. Of course in thermocouples that have both terminals exposed to the air, the machine must be standardized at room temperature before it can be operated. Simply reading the temperature of the skin of a patient gives little, if any useful *information, unless there* be a wide difference between his two feet. Even here the findings simply suggest abnormality, which may not be due to organic peripheral vascular disease.

The study of surface temperature changes, as a result of vasodilation physiologically induced, or as the result of sympathetic inhibition, is of paramount importance, since any definite increase in skin temperature is chiefly due to an increase in blood flow Should there be a rise in skin temperature of as little as 4° or 5° F after paravertebral novocaine block, it is probable that sympathectomy would be of benefit to the patient with severe circulatory impairment

While it is true that the majority of patients with advanced arteriosclerosis do not show evidence of arteriospasm which can be demonstrated by sympathetic block, an appreciable number do It is therefore necessary to evaluate each case from the standpoint of arteriospasm, since this is a remediable condition which has considerable bearing on the prognosis of the disease

Having briefly considered the various methods of examination and indicated their limitations, let us go to a consideration of the patients themselves At the beginning of this paper I elected to confine myself to a consideration of a specific type of case—namely, advanced organic arterial occlusion with actual or impending gangrene These patients present one of the most pitiful pictures to be seen in the practice of medicine They usually spend weeks or months confined to bed, without privileges, surrounded by leg cradles to protect their extremities and usually heated by electric light bulbs

Those patients who are unfortunate *enough to have severe rest pain spend* their time in periods of narcosis induced by morphine, alternating with much longer periods of agony This description is presented for a purpose I believe that we must find some other method of relieving such pain The answer to this problem may come from the field of neurosurgery There is no doubt that an effectual method for the relief of rest pain will save the lives of many patients who though they seem to be improving from the standpoint of their peripheral vascular disease, succumb to coronary thrombosis or some other vascular catastrophe There is little doubt that the suffering to which these patients are subjected, bears a *definite etiological relationship to the* high incidence of terminal vascular accidents This is particularly true in arteriosclerosis associated with diabetes

The difficulty of the problem increases directly with the severity of the rest pain In mild cases, the use of ordinary sedatives alone, or together with paravertebral block is often sufficient Sometimes it is possible to control mild pain by the use of mechanical devices, such as the intermittent positive pressure cuff or mild radiant heat

In the presence of severe rest pain, the problem is far more difficult, in these patients it frequently cannot be controlled even with large doses of morphine Because of the fact that they are under observation for weeks or months, it becomes unsafe to administer sufficient opiates, the whole group of narcotics, hypnotics and sedatives are tried usually with the same poor results It is not unusual to find two or three different sedatives in use simultaneously

Unfortunately, there is as yet no acceptable method of controlling pain, but I have no doubt that the solution of this problem would contribute greatly to the rehabilitation of many of these patients *and prevent the complications so frequently* seen in this group

For purposes of treatment, these patients may be divided into three types

Type 1 Without rest pain, these patients are suitable for clinic management They respond to any rece treatment and frequently are completely rehabilitated.

Type 2. Patients with mild rest pain relieved by sedatives, radiant heat, positive pressure cuff or boot. These are better treated in hospitals, especially if tissue necrosis is present. This is usually superficial and not progressive. The vast majority of cases also may be rehabilitated.

Type 3. Patients with severe rest pain made worse by slight elevation of the affected leg or other physical treatment, and which is not relieved by sedatives. Gangrene is usually deep and involves the terminal tissues. The use of the suction pressure apparatus is poorly tolerated and seems to aggravate the condition. The use of this apparatus in the presence of infection is definitely contraindicated. A small percentage of these patients tolerate the intermittent positive pressure treatments; if they do it may be worth a trial.

Generally speaking, any form of physical therapy which aggravates the pain, should not be persisted in, since pain is an index of tissue anoxia.

Discussion

CHARLES ALEXANDER HATFIELD, M.D.

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I am glad of the opportunity to congratulate Dr. Lisker on his courage in bringing up for discussion the subject of progressive and painful arterial occlusion. Those of us interested in peripheral vascular disease, know this condition to be ever present, distressing to observe and decidedly recalcitrant to treatment. This chronic, progressive, remarkably painful affliction deserves investigation far beyond that which it has been accorded.

There can be no doubt that adequate history, careful physical examination and all the laboratory and bedside aids can give one a workable impression [illegible] not a strictly accurate diagnosis. [illegible] know of no category of affections [illegible] can have such a wide range of probabilities as that of peripheral vas[illegible] disease.

Certain of us will have conce[illegible] on one type of study far more [illegible] others. This will, of course, be [illegible] of preference to the individ[illegible] ever, a working knowledge [illegible] aids is most desirable to [illegible] margin of error to its minutest possible size.

Oscillometry gives one a very practical w[illegible] of the relative volume [illegible] available to the extrem[illegible] consideration. Its finer [illegible] must be mas[illegible] intradermally gives [illegible] after its varied [illegible] become familiar [illegible] ature observations [illegible] value not only in [illegible] of the circulatory [illegible] nostic index.

[illegible] iliar with the skin [illegible] than with any of [illegible] temperature rise dem[illegible] sympathetic inhibi[illegible] satisfactory index to the [illegible] ovement to be antici[illegible] sympathetic denerva[illegible] athetic anesthetization, [illegible] regional, gives a defi[illegible] potential response.

[illegible] ature recordings, with or [illegible] sympathetic interference, are [illegible] local conditions, such as open lesions, actual gangrene, infection and the like. Diagnostic sympathetic anesthesia, while subject to clinical interpretation, is invaluable. Peripheral nerve trunks may be temporarily anesthetized and the response of the region supplied by these nerves recorded. Similarly, regional blocks by means of the sympathetic ganglia, although considerably more difficult to achieve, give much information as to the potentialities of the circulation in the corresponding limb.

Novocain infiltration of a peripheral mixed nerve or of a ganglion of the sympathetic system will give an immediate response to the extent that the organ is capable. My own experience with a permanent type of anesthesia has been unfortunate. I do not recommend alcohol injection either of peripheral nerves, because of the danger of local thrombosis and paralysis, or of ganglia of the sympathetic system because of the likelihood of peripheral neuritis.

However, surgery of the peripheral nerves does not always produce ideal results. The limb upon which it is performed, may not be able to withstand this additional trauma. There is always danger of damaging the blood vessels that lie in close proximity to the nerves in question. The relief of pain, which is the objective, is not always won. The paralysis resulting from crushing of a mixed nerve may be more distressing than the pain itself.

Before leaving the field of study to discuss that of treatment, I should like to mention a rather new line of investigation of peripheral vascular disease. I do not know the originator of this phenomenon. I do know that it dates back before 1930. The study comprises the introduction of the inert dye, fluorescein, into the general circulation. Upon exposure to cobalt filtered ultraviolet light, all tissue that has an adequate blood supply to maintain life will "fluoresce", that is, will glow with an unmistakeable greenish yellow hue. Variations in blood supply will be demonstrated by the ebbing and flowing of this glow. Absence of viable circulation is indicated by a tissue that does not in any way react to this light. It simply registers the visible purple light that any tissue or material exhibits without treatment. This line of study is dramatic and easily interpreted visually. It permits not only evaluation of the state of the extremity but furnishes visual information on the ability of the limb or area to maintain adequate circulation. This phenomenon alone is invaluable when a difficult decision must be made for or against emergency surgery.

As mentioned earlier, I have given up peripheral nerve crush as a method of controlling pain. Purely surgical methods are not always ideal, it is necessary to enlist the aid of physial therapy. Of the methods available to control the ebb and flow of blood, the one invoking the aid of gravity is the simplest. The oscillating bed takes every advantage of this.

The methods using positive and negative pressure without or within the limb also have great value. The intermittent venous occlusion ritual has a direct bearing on a surgical procedure soon to be discussed. The alternating positive and negative pressure appliance, the "Pavex boot," simulates natural circulation—but with the profound reservation that it must do this from outside. All these treatments have as a "must", namely, the administration of papaverine hydrochloride.

But what can be done surgically for the extremity that shows slow, progressive and painful diminution of the arterial supply? If there is no r [illegible] to sympathetic anesthetization, sible and feasible to use a mechanical method of forcing dissemination of oxygenated blood through the anoxic tissues. This may be accomplished by ligating the main venous trunk from the extremity to the body. What this accomplishes physiologically is still a subject for discussion. However, it does relieve pain and improve circulation and may produce a latent sympathetic paralysis that is extremely beneficial. It is possible that the actual operation of ligation may interrupt the sympathetic pathways on the main artery closely associated. Hydrostatically, building up a retrograde venous pressure will relax vasospasm.

Should there be demonstrable an element of abnormal vasospasm, there seems to be little doubt that surgical sympathetic denervation offers the most satisfactory and permanent form of relief. However, such procedures do not consist solely of extirpating sympathetic ganglia in the neighborhood of the affected limb. Preganglionic sympathectomy may mean an almost permanent cure, while a postganglionic procedure may only give a period of temporary relief with recurrence of more severe symptoms within a few weeks.

Freeman and his associates showed that postganglionic denervation of the sympathetic system rendered the area, limb, or appendage more susceptible to sympathetic stimuli after the immediate effect of operation had worn off. However, preganglionic interruption provided a semipermanent sympathetic paralysis.

To interrupt the sympathetic conduction of the upper limb [illegible] preganglionic procedure, the following technic is recommended:

An approach is made through the structures that lie above the clavicle on the affected side. The sympathetic chain is divided between the third and fourth ganglia in the thoracic region. The chain is not removed, but the rami communicantes of the third, second and first ganglia are interrupted. The proximal end of the chain so mobilized, is then imbedded behind the fibers of the first or second intercostal muscle. This operation, while being purely preganglionic does not carry with it the unfortunate sequel of a Horner's syndrome. The procedure may be carried out on both sides at one sitting, if so indicated.

Preganglionic sympathetic interruption of the lower extremity is carried out by removal of the first, second and third lumbar ganglia in the female and the second and third only in the male. This operation is carried out through an anterolateral incision in the abdomen with a retroperitoneal approach. If a muscle splitting incision is used, this does not involve a long or incapacitating convalescence. Avoidance of the first lumbar resection in the male prevents the occasional sexual difficulty that can occur.

Where the vascular tree is capable of response, permanent dilatation of the vessels, both efferent and afferent, furnishes the best result from the patient's point of view. There are occasions where the [illegible] of the circulation [illegible] at all demonstrable wherein such dilatation gives profound relief. Personally, I should like to see more [illegible] to treat surgically those patients [illegible] can possibly withstand it.

[illegible] the summation of this material [illegible] next issue.)

Observations on the Eyelids

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HALIFAX, YORKSHIRE, ENGLAND

THE eyes of most vertebrates except fishes and snakes are protected by movable eyelids. In certain lizards which live in sand, the lower eyelid is transparent; that of *Cabrita,* found in India, has in it a transparent disc. On the development and anatomy, I need not dwell. Extreme tactile sensibility is an important function. In man, the eyelids are capable of more than reflex action; they play an important part in expression of emotion. Perdita spoke of:

"... violets dim.

"But sweeter than the lids of Juno's eyes."*

How different, alas! are the eyelids of alluring youth from the stricken features of a victim of typhus. Between such extremes are subtle variations which doctors subconsciously observe, even before they inspect the tongue; sometimes, anemia, jaundice or myxodema are recognizable at a glance. Physicians use palpation through the closed eyelids to discriminate between diabetic and hypoglycemic coma; in the former condition, the tissues are dehydrated.

The North of England Ophthalmological Society is established among some of the largest centers of population in the world, consequently rare ocular affections are common at its meetings. A classification should pave the way for the few comments which I have to make, put them in their proper perspective and perhaps promote one of those discussions so often more luminous than the original contribution, especially when speakers have travelled widely.

COMMENTARY

Obviously one cannot pretend to discuss all these affections. The last defect listed in group 1, ankylblepharon, recalls the persistence of union between the eyelids for some time after birth in carnivora. The protective operation of median tarsorrhaphy is no less valuable in the human adult whenever the cornea is especially vulnerable, for example, in relapsing ulceration. It is an operation one shrinks from but never regrets. It enables those who would otherwise have to be treated as in-patients for long periods to go about their business, and promotes sound healing of the cornea' lesion.

A somewhat unusual traumatic [illegible] which came under my care recently at St. Luke's Hospital, Bradford, was that of a captain who was directing the fire of a P.I.A.T. gun from a shallow trench. The projectile struck a target at fifty yards range and the conical nose cap was blown back into the officer's face, where it penetrated the lower eyelid, rupturing the eyeball, and lodged in the maxillary antrum, where it was removed through the wound of entry. The eyeball was removed and the eyelids sutured. A visor would have prevented this injury.

Some blisters on a boy's eye[illegible] so suggestive of Lewisite [illegible] was taxed with being in [illegible] session thereof. The [illegible]

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* (*The Winter's Tale,* Act 4, Scene 3.)

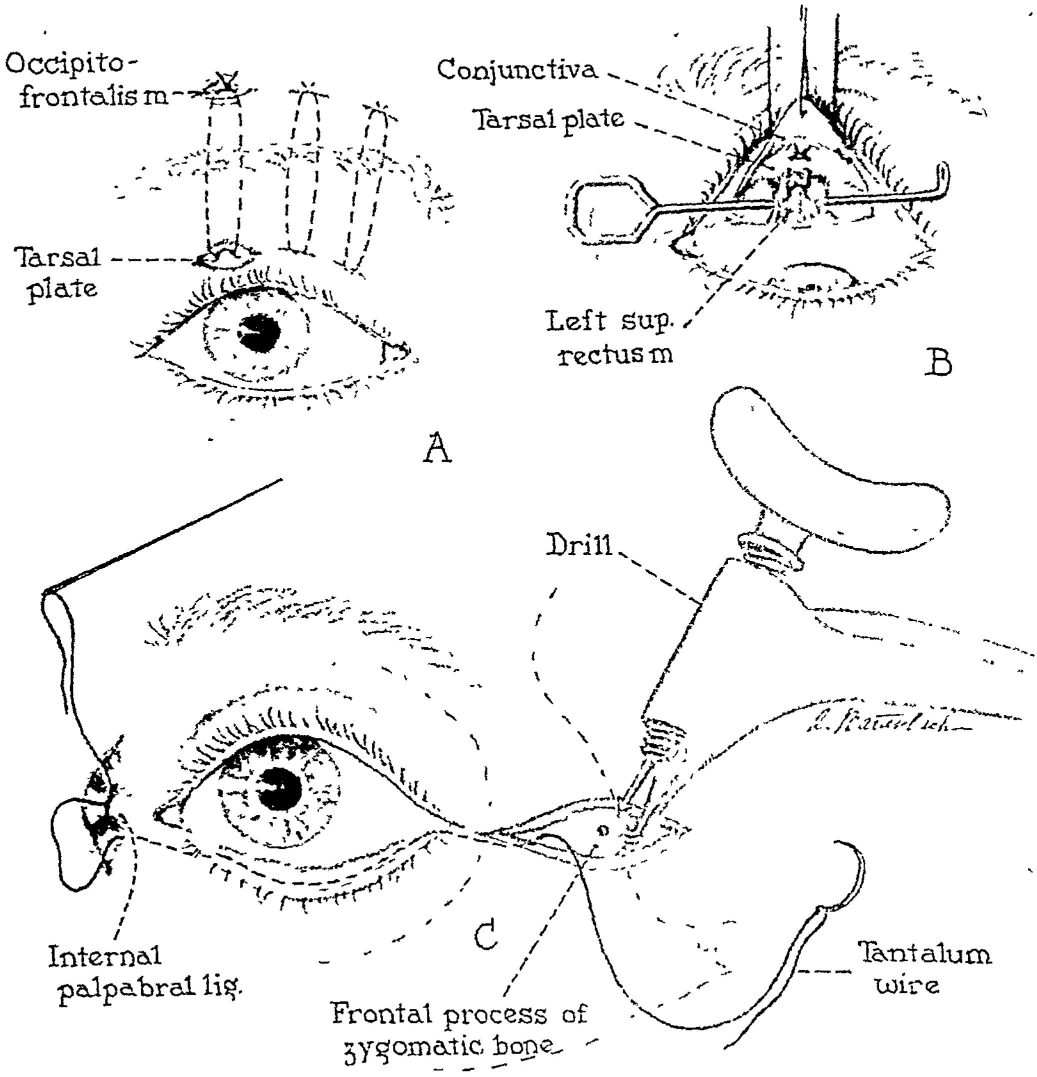

Fig. 1. Demonstration of wiring the eyelids for neuroparalytic affections with .003″ tantalum wire. *A.* Ptosis treated by connecting the upper border of the tarsal cartilage to the occipito-frontalis. *B.* Ptosis treated by suturing the upper border of the tarsal plate to the central fibres of the superior rectus muscle. *C.* For paralytic ectropion of the lower eyelid, one end of the wire is connected to the internal palpebral ligament and the other to the zygomatic bone, in which a hole is drilled by means of a special punch. The wire passes submuscularly

other delinquents, blistered elsewhere, clinched the diagnosis. The boys were duly visited by the competent dermatological authority at the Royal Halifax Infirmary.

Cicatrical ectropion from petrol burns is common in war time. If the burn has been superficial, it may be advisable to wait for twelve months before operating. Regeneration may occur as it does in the donor area for a skin graft. The eyelid then resumes its natural

SOME AFFECTIONS OF THE EYELIDS

1 Congenital	Cyclops Coloboma Duplication of the outer canthus Ptosis Trichiasis and districhiasis Atresia of lacrymal punctum Ankyloblepharon
2 Traumatic	"Black eye" Wounds, bites burns physico chemical injuries (symblepharon)
3 Neuroparalytic	Anaesthesia Paralytic ectropion Spastic ectropion Tic Ptosis
4 Vascular	Pulsating exophthalmos Lymphoma
5 Infections	(a) Viruses Herpes Vaccinia
	(b) Bacteria Ophthalmia neonatorum Erysipelas cellulitis Leprosy Lupus and tuberculosis of facial bones Staphylococcal Streptococcal Diphtheritic Anthrax Blastomycosis
	(c) Fungi
	(d) Trachomatous
	(e) Spirochaetal Spirochaeta pallida Spirochaeta pertenue Leishmaniasis
	(f) Protozal Filariasis *Trichinella spiralis*
6 Cutaneous	Xanthelasma Dermatitis Pemphigus
7 Neoplastic	Retention cysts, e g chalazion Papilloma Naevus Neuroma Molloscum contagiosum Rodent ulcer Sebaceous carcinoma Squamous epithelioma Melanoma Metastases

position spontaneously A reliable method in severe cases is to transplant a whole thickness skin graft from the back of the pinna This skin is supple, of the right color and inured to exposure, and fibrocartilage may be transferred with it The resultant postauricular defect is made good with a dermatome Incisions should be made not along the orbital margin, but within suture hold of the eyelashes, to avoid lymphatic stasis and unsightly edema in an isolated area of normal skin This simple but successful procedure supersedes many major plastic operations

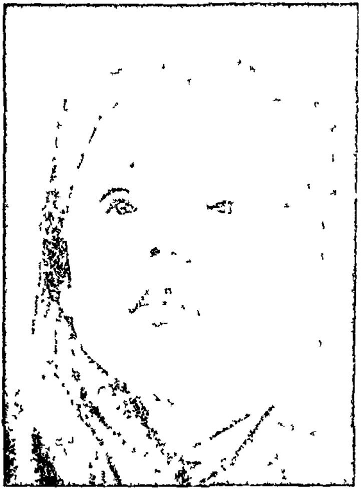

Fig 2 Case of bilateral congenital ptosis and epicanthus, after insertion of tantalum sutures into the right upper eyelid

Passing from injuries, disturbances of innervation provide us with much material of surgical interest Spastic entropion may sometimes be corrected by painting the lower eyelids with col

RESUMEN

Los párpados constituye una estructura anatómica muy interesante capaces de sufrir muchas de las enfermedades que toman asiento en la piel. Con frecuencia son los párpados el factor que nos pone en guardia sobre la presencia de una afección orgánica general, aparte de ser ellos, precisamente, los que muestran los síntomas precoces de las afecciones peculiares de la región ocular.

Se enumeran unas cuarenta afecciones a este respecto y se comentan algunas de las de más actualidad e interés médico-quirúrgico.

Свод

Веки являются интересными и существенными органами, подверженными многим болезням тела. Часто, помимо ранних симптомов чисто глазных болезней, они дают первые симптомы системных заболеваний. Перечислено около сорока болезней с ссылкой на некоторые болезни особенно интересные во врачебном и хирургическом отношении.

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lumière l'etiologie soit un traumatisme, une inflammation de l'iris ou une autre cause. Il présente trois cas.

RESUMEN

El autor analiza los fracasos que siguieron a los primeros intentos de reconstrucción pupilar y achaca a ellos el motivo por el cual se descuida en la actualidad dicho procedimiento. Cita varios casos propios, operados con éxito, y detalla la técnica operatoria en dos de los casos; en uno de ellos empleó su método personal para el restablecimiento de por lo menos una visión parcial en los individuos que han perdido toda la función óptica excepto la percepción luminosa por causa de lesiones traumáticas, iritis u otros motivos. Comunica tres casos.

Свод

Автор считает, что прежние неудачи попыток конструкции искусственного зрачка являются возможной причиной теперешнего пренебрежения этой важной меры. Он упоминает несколько серий своих собственных случаев, которые были успешно оперированны, и дает простое описание двух операций, одна его собственная, для ресторации, по крайней мере, частичного зрения у больных, которые потеряли от повреждения, ирита или других причин всю перцепцию за исключением световой. Он описывает три случая

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The Responsibility of the Surgeon in the Preservation of Human Fertility*

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THE objective in the practice of medicine is to preserve, insofar as it is possible, the life and health of people We give prenatal advice at the very incipience of life assist at the turmoil of labor, administer prophylaxis in childhood, combat the lurking dangers of adolescence and help mature man through the thousand and one disabilities to which he is heir Today, due to the vicissitudes and horrors of a global war, we must prepare ourselves for new and greater service

CHART I

TOTAL WAR
presents
GLOBAL REPOPULATION PROBLEMS

Caused by
1 Male decimation resulting in decreased number of marriageable males
2 Sex ratio imbalance
3 Shifts in population
    A Civilian evacuation in war areas
    B Prisoner transplantation
    C Industrial migrations (defense plants etc)
4 Sterility (see chart Causes of Male Sterility in War)

The Doctor's Responsibility to the People
Restoring fertility to the eugenically sound

One of the phases of our medical obligation which has received too little attention in the past, but which has been highlighted by this war, is that of the preservation of human fertility Every nation depends upon its population and the stamina of that population for its strength War has destroyed too much of our best material The decrease in the male population has dangerously upset the sex ratio Male sterility has been greatly increased through the injuries and hazards of war The problem of global population is so acute that we must restore to fertility all individuals of eugenically sound stock In addition, we must urge those best endowed for parenthood to have larger families than is now fashion*able among them. In view of these facts,* we believe that every case that comes to a surgeon's attention must have a thorough investigation of the factors governing fertility

The White House report of January 1940 brought to light the startling differences that manifest themselves in American fertility. It pointed out three remarkable facts: (1) that a preponderance of children were born to parents living in rural areas, (2) that a striking number came from foreign born parents, and (3) that an alarmingly large number occurred in families in the lower *income brackets. The report further* showed the extremely unsatisfactory results from this type of breeding. For example: There were in 1940—(a) 360,000 idiots and 1,800,000 mentally defective children in the United States: (b) several hundred thousand children who do not go to school: (c) 12,000,000 children who belong to families with an annual income below $[illegible]; ([illegible]) 23,000 delinquent children [illegible] State

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* Read before Ninth Annual Assembly, U S Chapter, International College of Surgeons, Philadelphia Pa.

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Institutions; (e) 180,000 children annually who are brought before juvenile courts as delinquents.

Judging by the answers given to census takers in 1940, sanitary living conditions throughout the country were far below acceptable standards.

CHART II

Recorded from 1940 Census Questions

1/6 of entire population of U. S. A. live in homes where there is less than one room per person—6,000,000 families in 37,325,470 homes in America.

The following facts and figures are on 36,900,000 homes:

22%—nearly 1/4—have no electric light;
40%—have no bathing facilities;
35.2%—have no flush toilets;
31%—nearly 1/3 of all dwelling units, are without running water;
2.8%—have no toilet facilities, not even a privy.

Do you know that in New York City, houses condemned as unfit for living 40 years ago are still standing?

In the same year, 1940, it was estimated that in the United States: (a) 25 per cent of the population was diabetic; (b) One in every ten persons was syphilitic; (c) One out of every eight would be confined to an institution for the insane during his lifetime; 90 per cent of all insane were victims of inheritable insanity; (d) 80 per cent of all criminal cases come from weak-minded parents; (e) The "I.Q." of the U. S. population as a whole was at the mental level of a *12 year old child*.

Selective Service not only substantiated these figures but demonstrated that they were *conservative*. Prior to Pearl Harbor, one out of two of our young men failed their physical examination. The subsequent need for increased man [illegible]r necessitated the standards being lowered; after they were lowered, four million of our boys were still found unsuitable for military service. Of the four million, 35 per cent were discarded for mental conditions!

Very little comfort can be taken by any of us in this state of affairs. All organizations, whether political, educational, economic, medical or religious, should bow their heads in shame for their sad lack of coöperation and integration in the past.

This is not the place for a diatribe against the factors which have caused this breakdown of the health of the American nation or the weakening of the disciplinary force in the American home. What we must be concerned with, *here and now*, is the problem of building up a *new generation*. We know that such a generation must be protected throughout its formative period by the best possible environmental factors. However, we learned long ago that even the best environment *alone* will not save stock that is dysgenic.

Good government, as well as good medicine, depends upon education—not the education of the gifted few, but the intensive education of the masses. Medical men have received the most thorough type of training that our modern civilization offers. By this fact alone, they automatically become vested with potential leadership and must foster every measure which will tend toward the betterment of the nation's health.

One of the obvious sources of such improvement is the enlargement of well endowed families. Terman has pointed out that the greatest percentage of gifted children in this country, has come from the professional group.

OCCUPATIONS OF PARENTS OF GIFTED CHILDREN

	Proportion among fathers of gifted children	Proportion in Population of Los A. & San F. (1910 census)	% of quota among fathers of gifted children
Professional group	29.1%	2.9%	1003%
Public Service group	4.5%	3.3%	137%
Commercial group	46.2%	31.6%	128%
Industrial group	20.2%	57.5%	35%

10 times as many gifted children come from the professional group as from the population at random.

(From Terman's *Genetic Studies of Genius*)

It is therefore obvious that the professional group, numerically by far the smallest, produces the best mentally equipped children. Unfortunately, they also produce the *fewest* children per family. A considerable national upswing would result, if such families could be influenced to increase the number of their offspring.

War is notorious for depleting our store of "1A's" and building up a reservoir of "4F's." Our socio-economic responsibility blends with our medical duty, to salvage as much from the wreckage as possible. Therefore, the all-important consideration that must receive the surgeon's attention is the question of fertility. No matter for what reason the patient comes to you, the larger national responsibility demands that you investigate the question of his procreative powers.

In peace time, the surgeon can prevent many causes of male sterility by careful and early treatment. This is particularly true of the treatment of gonorrhea. The hazards to a man's fertility may come through involvement of the genitourinary tract by *primary invasion*, or may arise by secondary extension from adjacent structures.

CHART III

SOME CAUSES OF MALE STERILITY IN TIME OF PEACE

Infections

1. Acute—Mumps, gonorrhea, infections causing *pyrexia*
2. Chronic—Tuberculosis of G. U. tract, locomotor ataxia, etc.

Endocrine Disorders

Pituitary, gonadal, thyroid, etc.

Absent or Undescended Testes

Deficiency Diseases

Avitaminosis (especially of vitamin E)—severe anemia

Errors in Coital Technic

Over Indulgence

Accidents

A. Injuries to the G. U. tract
 1. Traumatic 2. Surgical

B. Overexposure to X-ray or radium (in doctors, technicians, etc.)

Toxic States as

Uremia, chronic fatigue, cachexia, etc.

Industrial Diseases

Poisoning by metals or their products as Lead, radium, radon, etc.

New Growths of G. U. Tract

Addictions

1. Chronic ethylism 2. Morphinism, etc.

Idiopathic Factors

Reproductive incompatibility

Any Combination of the Above

Spermatogenic Disturbances Manifesting Themselves as

1. Oligo-necro-azo- or aspermia
2. Suboptimal sperm longevity
3. Sterile motile sperm

Conservative treatment and chemotherapy will do much to preserve fertility, frequently endangered posterior urethral compl

CHART VII

INDICATIONS FOR CROSS-ARTIFICIAL INSEMINATION

I. Absolute sterility of husband.
II. Temporary sterility of husband whose wife is near end of child-bearing period.
III. Temporary sterility of husband whose spermatogenic function is defective.
IV. Husband with transmissible dysgenic factors.
V. Sterile motile spermatozoa.
VI. Rh factor incompatibility.
VII. Repopulation of male-depleted countries.

CHART VIII

CRITERIA IN DONOR SELECTION

I. Genealogy free from hereditary taint; ancestral history known and traceable.
II. Past performance must show definite achievement.
III. Physical condition excellent.
IV. Mental status above average.
V. Wife must give consent to this work.
VI. Rh factor must be same as recipient's.
VII. Blood group same as husband's.
VIII. Physiognomy must resemble sterile husband's.

CONCLUSIONS

1. The White House report of Jan. 1940 and the Selective Service draft have both shown that our male population is woefully below par.

2. Statistics by Terman and others have shown that while families of high I.Q. would be better prospective parents, they have fewer children than those in the lower groups. Therefore, they should be encouraged to increase the size of their families.

3. Eugenics must be a primary consideration in the practice of medicine since it affects our national well-being as well as our national wealth. This may mean legislation.

4. It is the surgeon's duty to alleviate temporary sterility in both men and women where eugenically justifiable.

5. In all cases of absolute male sterility, fertile women of good stock should be given an opportunity for motherhood through cross artificial insemination.

6. Medicine today must concern itself no longer *only* with *individual* health problems, but with *national* health as it affects our country as a whole and the world at large. "Pro Omni Humanitate."

SUMMARY

The author states that a grave responsibility rests on the shoulders of the learned professions as a whole, and medicine in particular, not only to help to raise the physical and eugenic standards of American living, but for its present low status. She cites the figures of the White House report of 1940, also the observations of Selective Service. She then goes on to outline some of the steps that may be taken by each medical man as an individual. to help alleviate, here and now, some of the evils that these two agencies have uncovered. In a series of charts, she shows various inter-relationships between cause and effect, and results to be obtained by the measures he advocates.

SOMMAIRE

L'auteur nous enforme qu'une grande responsabilité pèse sur les epaules des professions scientifiques et surtout sur la profession médicale. Elle s'agit d'élever les standards physiques et eugéniques de la population américaine.

(Continued on page 399)

Occupational Therapy in the Rehabilitation of Surgical Cases

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THE problem of rehabilitation which confronts us at the present time is the greatest that the world has ever known. Thousands of men whose lives would have been lost save for the magnificent achievements of the medical profession, are leaving our hospitals to seek reestablishment in civil life. We owe them every possible service which may reduce their disabilities, speed their readjustment and prepare them to earn an adequate living no matter how severe their handicaps.

Since World War I, increasingly well developed and organized methods of rehabilitation have been established. The war manpower shortage gave the opportunity *par excellence* to prove that the handicapped worker can do as good, or often a better job, than his normal brother. Many employers are more willing to employ disabled persons than they were before the war but, with the reconversion of industry, the able bodied worker will again tend to supplant the person who has limitations of physical or mental ability.

Among the methods of rehabilitation which gained great impetus from World War I was occupational therapy. Practically no formal training in this field had been given prior to 1918. At that time, when General Pershing made a request for one thousand Reconstruction Aides in Occupational Therapy, training schools were established. After the war, because of the civilian need, the schools were urged to continue their courses. Programs have been lengthened from three months to three year or five year courses which combine the achievement of a college degree with specialization in occupational therapy.

The acceptance of occupational therapy as a recognized adjunct of medical treatment has been evidenced by the steadily increasing demand for graduates of the training schools. Even during the depression, this was greater than the available supply. In 1935 the American Medical Association set up standards for acceptable schools. The establishment of the Baruch Foundation for the development of physical medicine and the increased sponsorship of this work by the Council on Physical Medicine of the American Medical Association open opportunities for research and development. The urgent need for sufficient trained occupational therapists for service in military hospitals necessitated the establishment by the War Department of a completely subsidized emergency training courses given in several of the accredited schools. The need for more therapists occasioned the opening of new training courses, so that there are now (1944) twenty two schools or courses as compared with five in 1940. Recent rehabilitation laws include occupational therapy as one of the services to be made available for war casualties and civilians. All these facts are proof of the recognized place of occupational therapy as a valuable treatment measure.

There is, however, still much misunderstanding of the proper use of occupational therapy, its [illegible]hip to possess these three characteristics are of use only in special cases and are not broadly applicable to the treatment of physical injuries. It is, however, vitally necessary that the patient's treatment should be graded so that the activity which he performs becomes comparable in motion and weight with his actual job.

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* Director, The Philadelphia School of Occupational Therapy.

The treatment of amputees is one of the specialized fields developed by the war. It has been found that occupational therapy can be of great service in helping a man to become accustomed to the use of an appliance in teaching him to write and to perform normal, everyday acts which lose their simplicity when fingers and hand are gone. The mental adjustment to such disability is greatly helped by early instruction.

What we have said up to this point, refers in large measure to patients who recover from illness or injury with no serious after-effects and who may return to their previous occupations without definite handicap. The National Council on Rehabilitation defines rehabilitation as "the restoration of the handicapped to the fullest physical, mental, social, vocational and economic usefulness of which they are capable."

If, therefore, the prognosis of a patient's condition is bad or doubtful for his return to his previous occupation, plans must be made as early as possible to assist him in the necessary readjustment and to obtain adequate training for him in a field for which he is suited. Programs should be planned in conferences among the surgeon, the social worker, the occupational therapist and vocational training and rehabilitation officials.

In many instances training may be started while the patient is still in bed; diversional activities may become at the same time prevocational. Typing and shorthand, hand sewing, mechanical drawing, commercial art and many other projects may be taught. All sorts of educational work can be carried on through extension courses. There has been an interesting industrial project under the occupational therapy department at the U. S. Naval Hospital in St. Albans, New York. The men still in the hospital have learned assembly processes which keep them busily occupied, give them the necessary exercise for injured hands and arms and prepare them for actual jobs of similar type as soon as they are discharged. Such programs may be difficult to establish in civilian hospitals or workshops because of labor unions, but many activities of similar nature can be developed. The well trained occupational therapist by no means confines her work to the use of arts and crafts but seeks occupations which meet her patients' needs, be they mental, physical, social, vocational or economic.

Concepts of occupational therapy are changing rapidly. Heavy demands are being made upon therapists and upon the schools to meet the needs of our disabled service men and women. The challenge is great, the problems are many, but we believe that occupational therapists can meet them and that this type of treatment will become increasingly useful in restoring persons disabled by disease or injury to their inalienable rights to "life, liberty and the pursuit of happiness."

SUMMARY

The author, who is director of the Philadelphia School of Occupational Therapy, gives a brief history of the rise of occupational therapy as a profession, together with an outline of its present-day objectives. She explains the need for such work, in civilian as well as military hospitals, and points

out, with pertinent quotations, that the things a handicapped person is trained to do, need not always, by any means, be entirely useful in themselves. She looks forward to the day when the occupational therapist will no longer need *to "sell" both herself and her work to* an uncomprehending world.

SOMMAIRE

L'auteur, directrice du Philadelphia School of Occupational Therapy, nous donne un résumé de l'origine et des progrès de la thérapie d'occupation comme profession. Elle nous démontre l'utilité de cette spécialité non seulement dans les hôpitaux militaires mais aussi dans les hôpitaux civils. Elle nous indique ce qu'on enseigne aux mutilés, et aux invalides. Elle envisage le jour où les services des thérapeutes d'occupation seront appréciés et recherchés.

RESUMEN

El autor, que es Director de la Escuela de Terapéutica Ocupacional de Filadelfia, hace una breve historia de la evolución de la terapéutica ocupacional como profesión, y describe los objetivos actuales de dicha rama. Pone de manifiesto la necesidad de estos métodos de tratamiento tanto en la vida militar como en la civil y asegura, aduciendo al *caso citas* pertinentes, que las cosas en las que debe entrenarse una persona incapacitada, no tienen que ser necesariamente absolutamente útiles en sí mismas. Finalmente, expresa su deseo de que pronto la terapéutica ocupacional se imponga con rango definido a la atención de un mundo que, por el momento, no ha llegado a comprender esta rama científica en todo su valor.

Свод

Автор, директорша Школы Трудовой Терапии в Филадельфии, дает краткую историю развития профессиональной трудовой терапии, а также дает очерк ее целей Она объясняет нужду работы как в штатских, так и в военных больницах и указывает при помощи цитат, что вещи которые больной учится делать, не должны быть полезными сами по себе Она надеется, что придет день, когда не нужно будем убеждать непонимающий мир, как необходима эта работа

(Continued from page 394)

Elle nous cite de chiffres donnés par la Maison Blanche en 1940, et aussi des observations du Selective Service. Elle nous indique la tâche qu'il incombe à chaque médecin afin atténuer certains maux signalés par ces deux communications Dans une série de schemas, elle nous montre l'interdépendance entre causes et effets et les resultats qu'on peut obtenir en instituant les mesures qu'elle nous signale

RESUMEN

El autor pone de relieve la gran responsabilidad que pesa sobre los hombres de profesiones ilustradas, especialmente la medicina, en lo relacionado a elevar el nivel de [illegible] de capacidad física y orgánica en los EE.UU, asi como también cabe a aquellos hombres la responsabilidad del presente bajo estado Al particular cita las cifras dadas por la "C[illegible]

(Concl[illegible]

gering the life of both mother and child.

While the extraperitoneal cesarean procedure pursues the ideal of exclusion of intraperitoneal exposure in simplifying technic by feasible approach to the lower segment of the uterine body, the obstetric surgeon must be willing to risk much if he endeavors to use it generally. It cannot be denied that in certain cases it may prove to be the technic of choice and the results may be encouraging, but for routine employment it demands serious consideration, experience and the asumption of grave responsibility.

Again, may I say it is not my intent or purpose to enter the controversial boundaries as to the position of choice of the classic cesarean section in relation to other methods of approach, such as the lower segment cesarean or the extraperitoneal cesarean procedure and their numerous modifications.

My analysis and report of 53 classic cesarean sections in my own experience, with most fortunate results, does not imply that I give preference to this method of procedure to the exclusion of all others in vogue with many outstanding obstetric surgeons.

Twenty years in practical and surgical obstetrics and now as an associate in gynecology convince me of the urge and seriousness demanding mature experience, competent judgment and technic to warrant entering the pregnant uterus through the lower segment cesarean operation, with a transverse incision, as practiced by Monro Kerr and Marshall, or by any extraperitoneal route.

Endless possible complications arising from increased vascularity, retrovesical and retroperitoneal, with perhaps an anteriorly attached placenta, render the anterior lower segment of hazardous approach.

Surgical obstetrics and gynecology are interrelated, a complement one to the other, and no method of approach for surgical delivery can be held to be void of certain danger.

In this series of 53 classic cesarean sections with accurate report of facts and findings, with analyses and conclusions, I was fortunate enough, or had the "good luck," not to have a single maternal death directly following the delivery, except in one case in which the section was done because of placenta praevia centralis, complicated with decompensating heart disease, much against my judgment, but on the recommendation of the cardiologist and obstetric staff in consultation as the only procedure of choice in the emergency. Death occurred twenty-one days postoperatively, from a cardiopulmonary terminal syndrome, as revealed by autopsy. I may add, furthermore, that this was voted by the Maternity Mortality Committee of Philadelphia to be an unpreventable death.

There were only five premature fetal deaths, four resulting from abruptio placentae and one from prematurity with placenta praevia.

ROUTINE OPERATIVE TECHNIC

Under this heading, and to avoid repetition, I shall describe the routine operative procedure which is followed by my associates and me in all cases in which the classic cesarean section is chosen, except of course the surgical steps that may be taken in the event of unlooked-for conditions, when adequate and acceptable technical methods will be employed.

With the patient under general anesthesia (induced with nitrous oxide and oxygen, followed by ether), the abdomen is prepared locally with ether, 3.5 per cent iodine and alcohol. The abdomen is opened by an incision in the median line, hypogastrically (abdominopelvic celiotomy), giving free exposure to the pelvic viscera The incision is made layer by layer under complete hemostasis, by clamp and ligature, as required The exposed uterus is now inspected, palpated, centralized and isolated by moist, large abdominal gauze pads An incision is made in the uterine wall to correspond to the abdominal incision, exposing the membrane, which is punctured, the fetus is delivered by the feet, followed by the buttocks and the rest of the body and the head, the cord is divided between clamps, the placenta is delivered manually and massive bleeding is controlled by tampon pressure for a few moments

The patient is given 1 ampule each of ergometrium and infundin and 1/6 grain (0 01 Gm) of morphine sulfate The uterine wound is then sutured layer by layer, with chromic no 1 catgut for the subendometrial layer, chromic no 2 for the muscular layer and chromic no 1 for the serosa The pelvic and abdominal cavities are thoroughly sponged, and a free portion of the omentum is drawn over the uterine line of sutures All mops, abdominal pads, etc , are counted and the count verified correct before closure of the abdominal cavity is done, as follows the peritoneum with plain no 1 catgut, the bellies of the rectus muscles with plain no 1, the muscular fascia with chromic no 2, the superficial fascia and skin with retention sutures of no 5 silk, and the skin edges with Michel clips Alcohol gauze placed over the line of sutures and sterile dressings complete the operation. Drains or packs are not required

STATISTICS ON 53 CLASSIC CESAREAN SECTIONS

34 of the mothers were private patients, 19 were ward patients 41 were white and 12 were colored Of the 19 ward patients, 12 were colored and 7 white

Distribution According to Parity

Gravida	Para	No of Patients	Ages, Years
I	0	35	15 to 40
II	I	11	22 to 39
III	II	3	21 to 35
V	IV	2	27 to 35
IX	VIII	1	37
XIII	XII	1	37

Types of Pelvis in 35 Mothers in First Pregnancy

Type	No
Generally contracted	7
Relatively contracted	4
Moderately contracted	2
Simple flat (platypelloid)	6
Justo minor	1
Obliquely contracted	2
Funnel (android)	3
Normal	10

Reasons for Operation in 10 Cases of Normal Pelvis

	No of Cases
Abruptio placentae	1
Placenta marginalis	1
Premature separation of placenta	1
Fetal dystocia	3
Organic heart disease	1
Chronic nephritis and hypertension	1
Uterine fibroid	1
Extensive perineum repairs	1

Types of Pelvis in 11 Mothers in Second Pregnancy

Type	No
Normal (gynecoid)	4
Generally contracted	4
Relatively contracted	3

Reasons for Operation in 4 Cases of Normal Pelvis

	No of Cases
Face presentation	1
Abruptio placentae	1
Chronic nephritis	1
Extensive perineal repairs	1

Types of Pelvis in 3 Mothers in Third Pregnancy

Type	No.
Generally contracted	2
Normal	1

Reasons for Operation in the 3 Cases

	No. of Cases
Fibroid complicating pregnancy at 7½ months	1
Heart disease with generally contracted pelvis	1
Cephalopelvic disproportion	1

Types of Pelvis in 2 Mothers in Fifth Pregnancy

Type	No.
Gynecoid	2

Reasons for Operation in the 2 Cases

	No. of Cases
Placenta praevia marginalis	1
Abruptio placentae	1

Type of Pelvis in 1 Mother in Ninth Pregnancy

Normal pelvis.

Reason for Operation:
Placenta praevia marginalis.

Type of Pelvis in 1 Mother in Thirteenth Pregnancy

Normal pelvis.

Reason for Operation:
Heart disease and placenta praevia (patient died).

Only one of the 53 mothers died. This was a woman with heart disease, whose thirteenth pregnancy was complicated by placenta praevia.

There were five deaths of fetuses, all of them due to placenta praevia or abruptio placentae.

The weights of the infants were as follows:

Weight, Pounds	No. of Infants
3 – 4	4
4 – 5	2
5	1
6 – 7	10
7½– 8	24
8½– 9	9
10 –11	3

The average period of hospitalization for the mothers was twelve days.

The following abnormalities other than pelvic deformities were noted:

Abnormality	No. of Patients
Previous cesarean sections	6*
Fibroids complicating pregnancy	2
Perineal repairs	2
Placenta praevia	3
Abruptio placentae	4
Heart disease	3
Toxemia	2
Chronic nephritis	2
Total	24

I have observed [illegible] this series that complicatio[illegible] [illegible]e frequently in flat pelves t[illegible] [illegible]l pelves and that with fla[illegible] [illegible]ure rupture of the mem[illegible] [illegible]curs before the actual o[illegible]

Again I [illegible] malpresentation, such [illegible] [illegible] or breech, was more [illegible] [illegible]ntered in flat pelves. [illegible] reveals that fetal dys[illegible] [illegible]ommon when there w[illegible] [illegible]elvis in which the co[illegible] 10 cm. or less [illegible] [illegible]ter of the inlet [illegible] 1 cm. or more, and w[illegible] [illegible]moid) occupied a p[illegible] canal.

I h[illegible] [illegible]cess of most high clas[illegible] [illegible]ons is based on the [illegible] performed a week or [illegible] before term or at the beginning of labor, before rupture of the membranes or immediately thereafter, that is, when there is no danger of infection

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* Four white wom[illegible] [illegible] One of the negroes had had [illegible] sections.

In my statistical studies of these cases, I find that the classic cesarean section was performed with greatest success in cases in which cardiac disease, uterine tumors and malpositions rendered vaginal delivery impossible, and in cases in which hysterectomy was indicated In such cases the patients received vaginal instillations of 5 per cent solution of mercurochrome before operation

I believe that patients who have been handled with uncertain aseptic technic or whose antepartum and laboratory studies have been inadequate should not be operated on by the classic cesarean section

Above all, there should be no vaginal examinations when a classic cesarean section is contemplated, and rectal examinations should be very few, preferably one or two for determining engagement of the head, as performed by the method of Hilles and Mueller

In contrast, low section is indicated when labor has been in process for some time and some complications have developed during labor, and when vaginal delivery has been tried and failed and classic section would involve too great a risk of infection

I believe from my observations in these 53 cases of classic cesarean section that the anesthetic of choice is nitrous oxide, oxygen and ether There were no complications from a respiratory standpoint, either to mother or child, from the use of this anesthetic

The deaths of five of the 53 infants were due to prematurity as a result of complications with the placenta, namely, placenta praevia and abruptio placentae The average weight of the babies seemed to be slightly above normal, and in a good many instances the diameter of the fetal head was above the normal

SUMMARY AND CONCLUSIONS

While there are sufficient statistics in eliminating the classical cesarean section because of the high percentage of deaths following operative procedures of this type, it may be of interest to note that in a period of four years I performed 53 classical cesarean sections without a single death due directly to the section, in one case death supervened twenty one days postoperatively from a terminal cardiopulmonary syndrome The statistics also show that I had no morbidity and that the average hospitalization time was twelve days It is my firm belief that in antepartum care, together with a competent physical examination and laboratory studies, the incidence of infection is greatly reduced by proper management of the patient in preparation for a possible operative procedure

It is my belief that cesarean section should be done as early in labor as possible, and that in all cases in which an elective cesarean operation has been decided on the operation should be performed within a week to a few days before the calculated date of confinement When the fetus is unusually large, roentgenograms should be taken in the last month of pregnancy to rule out a monstrosity, since cesarean section is rarely justified when the child is abnormal

In an analysis of these 53 cases from the standpoint of the type of pelvis, I noted that American born white women had contracted pelves less frequently than foreign born women, and that the rachitic type of pelvis was seldom seen in white women but was encountered in negroes contracted pelvis was the most frequent type in this series, and a deformed pelvis due to spinal disease was next in frequency.

RÉSUMÉ

Nombreuses statiques reprochent à l'opération césarienne classique une haute mortalité. Dans les dernières quatre années, j'ai fait cette opération cinquante-trois fois et n'ai eu qu'un décès due l'opération même. Ce décès survint vingt-et-un jours après l'opération et fut dû a un syndrome cardiopulmonaire terminal. Il n'y eut dans mes cas aucune morbidité, et la durée moyenne du séjour à l'hôpital fut douze jours. Je suis convaincu qu'avec de bons soins durant la grossesse, et l'étude du malade et d'amples examens, physiques et de laboratoire, qu'on peut obtenir des résultats opératoires très satisfaisants.

L'opération de section césarienne devrait être faite au début du travail. Dans les cas ou la nécessité de l'opération à, été prévue durant la grossesse, on operera quelque jours avant la date calculée de la naissance. Si le fetus est de dimensions anormales, on prendra un roentgenogramme afin de s'assurer qu'on n'a pas affaire avec un monstre. La section césarienne n'est que rarement justifiable, si l'enfant est anormal.

Dans l'analyse de me 53 cas, j'ai observé que les femmes blanches de naissance Américaine sont moins sujettes à des anormalités pelviennes que les femmes d'origine étrangère j'ai aussi observé les pelvis rétrécis se rencontrent plus frequemment chez les negresses que chez les blanches. Les pelvis généralement rétrécis furent les plus nombreux dans ma série; après eux, nous rencontrâmes les pelvis contractes, due à des maladies de la colonne vertebrate.

(Additional foreign-language summaries of this material will appear in a later issue of the "JOURNAL.")

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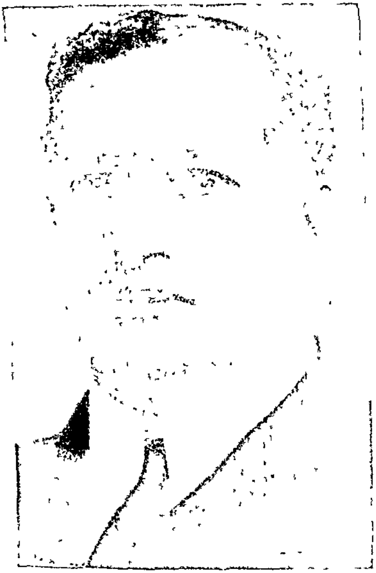
DARIO FERNANDEZ FIERRO, M D, F.I C.S.



It was with much sorrow that the friends and admirers of Don Fernandez Fierro, of Mexico City, learned of his death on March 12th, last, following a long and painful illness.

"Master Dario," as he was familiarly called, was an Honorary Fellow of the International College of Surgeons, a long time member of its International Board of Trustees, and Vice-President of the Mexican Chapter of the College. He was also widely known as one of the most important medical men of the Mexican Republic, a brilliant surgeon and beloved and inspiring teacher. He was associated, as professor, for some years, with the Faculty of Medicine of the National Free University of Mexico (La Facultad de Medicina de la Universidad Nacional Autonoma de Mexico).

Members of the medical profession everywhere, and more especially the Fellows and Members of the International College of Surgeons throughout the world, join those who have personally known and worked with Professor Fierro, in mourning the irreparable loss suffered by Hispanic America in the death of this fine man. His life was exemplary, his character as modest and unassuming as it was honest and straight-forward. We will not soon again find his equal.

(Continued from page 399)

y por el Servicio Selectivo. A continuación analiza los pasos que cada médico en particular debe dar para contribuir a aliviar, inmediatamente, algunos de los males que las dos instituciones citadas han presentado al publico en sus comunicados. En una serie de cuadros ilustrativos muestra el autor las interdependencias entre causa y efecto y expone los resultados a obtener siguiendo las medidas que propone.

Свод.

Автор заявляет, что на ученые профессии, вообще, а в особенности на медицину, падает большая ответственность не только за поднятие физических норм американской жизни, но также и за их теперешний низкий уровень. Он цитирует цифры доклада Белого Дома в 1940, а также наблюдения призывного отдела. Он затем излагает некоторые шаги, которые могут быть предприняты индивидуально каждым врачем сейчас же и на месте, а также указывает некоторые недостатки, найденные этими двумя агентствами. В серии таблиц он показывает различные взаимоотношения между причиной и эффектом и возможные результаты рекомендуемых им мер.

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NEW BOOKS

In the preface to this latest edition of the standard **Textbook of Obstetrics,**[1] **Dr. Henricus J. Stander** says, " this textbook, designed for the use of both the medical student and the practitioner" attempts to present "the science and art of obstetrics as taught in the Cornell University Medical College and practised in the New York Lying-In Hospital. Scientific and clinical data are given throughout the text, as these must of necessity be part of an academic as well as adequate presentation of the subject matter. The great majority of the teachers of obstetrics asked me to follow this plan, while only a few advised 'stream-lining.' For those who wish to concentrate in their teaching and reading on the more practical aspects, these are in larger type, while the historical and a great deal of the theoretical considerations appear in small type.

"It is also partly on the advice of my colleagues and teachers of obstetrics, many of them trained by Williams, that a change has been made in the title-page." This book, then "embodies the teaching and practice of the present author," quite as much as the form and idea of its originator, **Dr. J. Whitridge Williams.**

In its several editions, this has been the standard text on this subject since 1903. It is large enough (1277 pages) to cover completely every phase, not only of what might be considered strictly obstetrics *per se,* but also everything related to conception, gestation, partuition and post-partum care, as well as embiology, hystology and all of the abnormalities and complications that may be more or less frequently encountered.

Illustrations are very numerous and of all kinds, according to need. They are large, clear and well reproduced. Especially good, are the groups of line-drawings representing the position of the fetus during various stages of labor, from each of the recognized possible pre-natal positions. Also noteworthy is the use of half-tone drawings in preference to photographs in many instances, where the latter would give insufficient detail and information. References and bibliography are most extensive, arranged in groups throughout the book, adjacent to the related text material. The book itself, in spite of its size and weight, is easy to use, due to clear, large type (even in the smaller size used for historic and theoretical material) and a binding which allows it to lie open flat.

The Care of the Neurosurgical Patient Before, During and After Operation,[2] by **Dr. Ernest Sachs,** is dedicated to the neurological Fellows whom he has taught.

This textbook is most opportune at this time, because many young surgeons returning from the armed forces, who have had some experience in traumatic surgery about the head and neck may have gained the impression that they are finished neurologic surgeons. The details entered into in this textbook are not only valuable to the young neurologic surgeon but of interest and value to the experienced one as well. Since the information in this text is based on personal experience, this in itself is a valuable contribution to the subject. The textbook is profusely illustrated by drawings and contains detailed case histories, including subsequent treatment, operative procedures and preoperative and postoperative care.

If the reader bears in mind that this is a book purely relating to the *care* of the neurosurgical patient, he will not be disappointed in the text. If, on the other hand, he expects to learn or get a comprehensive knowledge of neurologic surgery, he will have a bitter disappointment. The book is, nevertheless, unhesitatingly recommended as a valuable adjunct to the library of any man who is interested in neurosurgical conditions and allied subjects.

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[1] Textbook of Obstetrics; Designed for the Use of Students and Practitioners. Henricus J. Stander, M.D., F.A.C.S. Stander's Third Revision; Ninth Edition of *Williams Obstetrics* by the late J. Whitridge Williams, M.D. D. Appleton-Century Co., Inc., New York; 1945.

[2] The Care of the Neurosurgical Patient Before, During and After Operation. Ernest Sachs, M.D., F.A.C.S. C. V. Mosby Co., St. Louis, Missouri; 1945.

Prof Truchaud's new book (French text) on **War Surgery**[3] is a most valuable contribution to war and industrial surgery It is a clear presentation of the subject, no space is wasted in useless descriptions Several other French surgeons have collaborated on this work, all masters of the subject of which they write The subject matter has been thoughtfully brought up to date, making this an authoritative text of great interest to clinicians and surgeons, military, naval and industrial

It is refreshing to find so much stress laid upon the important details of treatment Several chapters are devoted to the general pathology, symptomatology, and diagnosis and treatment of fractures, articular, juxta articular and diaphyseal Others cover almost everything of importance in the treatment of gunshot wounds The concluding chapters discuss the pathology symptomatology and treatment of wounds to the nerves, vessels and viscera

In all these chapters the surgical, orthopedic, electrical and mechanical management of these various conditions are discussed in detail The book contains many illustrations, helpful to a busy operating surgeon and contributing to the full understanding of the text

The author warns against the use of strong antiseptics in wounds, they annihilate the natural defenses of the tissues and are more dangerous than useful and devitalize the tissues He is not in favor of constant irrigation of wounds with antiseptics, it is far better, he says, to utilize isotonic solutions that favor the natural defenses, or hypertonic solutions may be used to provide transudation He advises immobilization of wounded extremities and the avoidance of frequent dressings He advocates free drainage in gunshot wounds and removal of projectiles

Biologic resistance of osseous tissue is nonexistent Immobilize all wounded tissues during the period of congestion, edema and cellular proliferation The author states that war wounds are not aseptic wounds, they are usually accompanied by great trauma to muscular tissue, if the bone has been penetrated, much splintering may be present The employment and value of the sulfa drugs is discussed at length

This book may be recommended without hesitation as one of the best published on the subject It is complete, well arranged, clearly written, up to date and amply illustrated

Decidedly a step in a much needed direction is the series of monographs being produced by the Bellman company to assist vocational counsellors and others interested in the newer guidance activities The field of occupations covered by the monographs listed is wide indeed, ranging all the way from library work (No 1), religion (No 18) and pharmacy (No 51) at the one end to agriculture (No 11), cartography (No 60) and Girl Scouting (No 57) at the other Each is written by an authority in the particular field

The present work on **Physiotherapy**[4] by **Dr Thomas Hennessey** covers, in only seventeen pages all of the essential information needed by anyone considering entry into the field of physiotherapy as a lifework All facets of the subject are touched upon, from the early history, dating from prehistoric times, to development through two World Wars, opportunities open to either graduate physicians or technicians and the remuneration to be expected by each, the personal qualifications required, extent and cost of necessary preliminary education, advantages and disadvantages, and lists of associations and periodicals

The author brings to his subject the products of a long life of experience with the work about which he writes having gained his knowledge of physiotherapy as he says "by trial and error (with) the instruments available" in the days before it had become the fairly exact science it now is He is more than competent to speak with authority

The text is clear and concise, arranged in labeled paragraphs for easy reference The only shortcoming apparent, if such it is, would be too large a proportion of the very limited space given to history, which, while unquestionably interesting, is not absolutely essential or cecostomy is made through a stab wound, for resections of the left colon.

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[3] Chirurgie de Guerre Colonel H Truchaud, Prof of Clinical Surgery, School of Medicine of Angers Les Lettres Françaises, Beyrouth

[4] Physiotherapy (No 65 of the Vocational and Professional Monographs Series) Thomas Francis Hennessey, M D Bellman Publishing Co, Inc, Boston, Mass, 1946 Price, 75 cents

For resections of the right half of the colon, having liquid ileal contents, a complemental enterostomy is rarely necessary. A side-to-side anastomosis is not well adapted for these radical resections. Where a complete colectomy is indicated, as with ulcerative or polypoid colitis associated with carcinoma, a hemicolectomy including the cancerous segment, with end-to-end anastomosis, is used first and several weeks later the residual segment is removed with, if feasible, an end-to-end ileoproctorrhaphy. By this modification, the mortality (6 per cent or more) associated with an ileostomy is eliminated.

For new growths situated between 5 and 11 cm. above the anus, a one-stage abdominoperineal proctosigmoidectomy with retention of a functional anus is used. The rectosigmoid is liberated on a somewhat wider scale than in the Miles operation; but through a left lower quadrant, muscle-splitting incision parallel with and about 3 cm. above the left inguinal ligament. Sufficient vascular upper sigmoid is liberated (12 cm.) to reach from the sacral promontory through the pelvic floor. No pelvic diaphragm is formed, as experience with over 200 cases has shown that the pelvic walls even when extensively denuded of peritoneum rarely produce complication. The abdominal wound is closed with a single sump drain to the bottom of the pelvis which is continuously aspirated by motor for several days or until blood and serum are no longer removed in quantity.

With the patient in the lithotomy position, the rectum is cleansed and packed with gauze wet with 3.5 per cent tincture of iodine. A posterior midline incision is made through the anus, sphincters and pelvic floor to the coccyx. The rectum is then divided just above the sphincters, the upper edge of the rectum being grasped with forceps and liberated, and the rectosigmoid pulled through the pelvic floor. The muscles of the pelvic floor and the skin are united back of the sphincters with three or four layers of buried interrupted sutures of 32 and 35 gauge stainless steel wire only, taking great care that the withdrawn sigmoid is not constricted. Dressings are applied, the rectosigmoid amputated 10 cm. beyond the perineum, and a rectal tube tied into the protruding end. In about six days, the rectal tube sloughs out; on the seventh to ninth day, the protruding segment of sigmoid is amputated painlessly about 2 cm. below the perineum, without anesthetic, by a heavy tonsil snare or cautery. Following this, the end of the sigmoid retracts within the anus and spontaneously unites to the upper edge of the anal mucosa. If the narrow annular scar at the line of anastomosis contracts, the patient is instructed to dilate the area daily until the tendency is overcome. A set of test tubes may be used as dilators. The resulting perineum and anus closely resemble the normal. Sphincter contractions and defecation sense are retained; the sphincters, while usually not watertight, commonly will retain solids sufficiently well to render the continuous wearing of a pad unnecessary.

To control any incontinence, an irrigation of the colon or a saline laxative is used to empty the bowel thoroughly every two to five days. In the interim most patients are able to go about without special protection.

For *carcinoma involving the anus or terminal 5 cm. of rectum*, a wide perineal and rectal resection is used. The rectosigmoid to be withdrawn is best liberated through an abdominal incision. This enables the exploration of the

(Continued on page 480)

Carcinoma of the Uterus:

The Question of Treatment by Surgery or Irradiation *

DEWARD O FERRIS, M D
ROCHESTER MINNESOTA

RECENT statistics show that carcinoma develops in the uterus more frequently than in any other organ or part of the female body Of 5,377 cases in which carcinoma of the uterus was treated at the Mayo Clinic from 1910 to 1944, inclusive, in 3,799 cases the lesion was primary in the cervix and in 1,578 cases it was in the corpus uteri The ratio of carcinoma of the cervix to carcinoma of the corpus uteri in this series is 2 4 1 Since indications for treatment vary with the site of the primary growth, as well as with the extent of the disease and its degree of malignancy, carcinoma of the cervix and of the corpus uteri must be considered separately Of course, there are other malignant lesions of the uterus, namely, chorionepithelioma, myosarcoma and sarcoma of the endometrium, which will not be discussed in this paper

In this series, 93 2 per cent of the cervical carcinomas were squamous cell epitheliomas and the remainder were adenocarcinomas of the cervical canal Almost all of the carcinomas of the corpus uteri are adenocarcinomas These three types of carcinoma all behave differently, present a different histologic picture and carry a different prognosis

When the diagnosis of carcinoma of the uterus is accurately made by microscopic study of biopsy material, permanent cure can be obtained only by radical and effective treatment The type of treatment and the ultimate result of such treatment will depend not only on the extent of the disease but also, in a large measure, on the grade of malignancy present The work on grading, as described by Broders,[1] taking into consideration chiefly the differentiation of the tumor cells, has been of great prognostic value He has graded them 1, 2, 3 and 4, the latter being the most malignant The clinical classification, based on that of the Health Organization of the League of Nations[2] which describes four stages, is a great help in tabulating or differentiating cases However, one must not be misled by fixation or infiltration in the broad ligaments, as this may be the result of coexisting inflammatory disease or endometriosis The stage of the growth is, no doubt, of great importance from a prognostic standpoint and as a means of helping to decide on the type of treatment but it does not represent as good a guide to the ultimate outcome as the histologic appearance of the tumor cells

Let us consider first squamous cell epithelioma of the cervix If the patient has a fair prospect of cure the treatment should be either removal of the epithelioma by one skilled in the procedure of radical hysterectomy or radium treatment by one experienced in radiotherapy, or a combination of these

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* Presented at the meeting of the International College of Surgeons, Washington, D C, December 6 to 8 1945

The choice will depend on the stage and grade of the lesion under consideration, the age of the patient, the duration of the disease and the probable difficulties and dangers of removal. In general, a stage 1 epithelioma of the cervix in a young woman, not obese and in good general condition, probably is best handled by radical hysterectomy followed by effective irradiation. All others probably are best treated by radium. Even if one admits that the treatment of a select group of early epitheliomas of the cervix should be surgical, and if a surgeon accustomed to the special type of radical hysterectomy required performs the operation, one is impressed immediately by the fact that such cases rarely are encountered. At the Mayo Clinic, in 677 new cases of epithelioma of the cervix treated in the years 1940 to 1944, inclusive, in only 114 cases (16.8 per cent) was operation undertaken.

If adenocarcinoma of the cervical canal is discovered early, the prospect for cure by surgical means is definitely better than for squamous cell epithelioma, because adenocarcinoma here frequently is of low grade. Unfortunately, however, the first symptom of an adenocarcinoma of the cervical canal frequently is a severe hemorrhage. This results from ulceration of a cervical [illegible], in most cases, by the time [illegible] the condition is hopelessly [illegible] owing to the extension of the lesion into the parametrium.

[illegible] in cases of carcinoma of [illegible] is much more hopeful [illegible] of carcinoma of the cervix; in fact, the prospect for cure of carcinoma of the uterine fundus is better than that of carcinoma of the same grade of malignancy in any other part of the body.[3] This probably is due, in large measure, to the fact that in most cases the lesion occurs at or after the menopause when there is no doubt a definite change in the vascular and lymphatic drainage from the genital organs. The myometrium also is a barrier to extension to other organs. As a rule, carcinoma of the corpus uteri develops slowly and metastasis occurs relatively late. On this account it is not necessary or advisable to submit patients who have carcinoma of the corpus uteri to the radical surgical procedures that are indicated for cervical carcinoma. Panhysterectomy, after the cervix has been sutured closed, is the treatment of choice. It has been our practice at the Mayo Clinic to give postoperative irradiation when the growth is found to be of a high grade of malignancy. There are, however, two small groups of cases in which the radiologist has considerable interest: in the first instance, in extensive malignant lesions that are too widespread for any curative surgical intervention but are capable of receiving much help from limited radiation therapy; secondly, in favorable small lesions which would be excisable except for the poor general condition of the patient, who is often suffering from serious disease not related to the carcinoma.

In table 1, the hospital mortality rate is within reasonable limits. It will be noted that there is a hospital mortality rate for irradiation.

In table 2, the operative series is too small to be of much significance. Three patients died of pulmonary emboli.

Table 3 shows the high mortality rate of 5.8 per cent for operation without irradiation. This represents all the cases since 1910. The mortality rate varied from time to time; in the five year period from 1920 to 1924, inclusive, it was 14.1 per cent and in a similar period from 1940 to 1944, inclusive, it was 1 1 per cent

In table 4, other operations include amputation of the cervix, cautery of the cervix, exploration and so forth Many of these were done in the early years, but it is now known that a radical operation must be done I have had to classify the operations as total abdominal hysterectomy and vaginal hysterectomy rather than as Wertheim's hysterectomy and Shauta's vaginal hysterectomy because many of the earlier cases were not so designated There is no doubt that a more radical operation than the regular panhysterectomy must have been done in most cases but many of them could not be classed as the radical procedures If the latter had been performed in all cases, I am sure I would be able to show a higher operative percentage of five year cures It is obvious from this table that post operative irradiation is advantageous

In the cases referred to in table 5, hysterectomy was panhysterectomy

Most of the fifty nine women, referred to in table 6, on whom subtotal abdominal hysterectomy was done probably now would be treated by irradiation alone

Table 7 gives an over all picture of the preceding tables Fifty three and four tenths per cent five year cures of squamous cell epithelioma of the cervix by combined treatment would perhaps indicate that removal of the regional lymph nodes is an important factor, as pointed out by Taussig[4] Radium is more efficient in destroying the cervical carcinoma than irradiation is in destroying regional lymph nodes From this table one also notes that the total hospital mortality rate is less than 4 per cent I believe that one should not be satisfied if this goes above 4 per cent for radical hysterectomy Meigs[5] recently has shown that the hospital mortality rate for radical hysterectomy can be kept less than this

In the last five years, our hospital mortality rate for radical hysterectomy for cervical malignant lesions has been 6 4 per cent and during the same period our hospital mortality rate for panhysterectomy for carcinoma of the uterine fundus has been 1 1 per cent

In our most recent study, the five year survival rate for squamous cell epithelioma of the cervix treated by Wertheim's hysterectomy and irradiation was 67 1 per cent The hospital mortality rate for this series was 8 per cent

CONCLUSIONS

1 There is no doubt that effective surgical treatment, when attempted only in suitable cases of squamous cell epithelioma of the cervix by surgeons accustomed to the tedious dissection necessary, gives a relatively high percentage of cures at a reasonable mortality rate When such treatment is given in conjunction with irradiation under the direction of an expert in this field of therapy the results are so good that I feel that further trial is justifiable In stage 2 lesions, Taussig's iliac lymphadenectomy and irradiation should be considered All others should be treated by radium and roentgen rays

2 Adenocarcinoma of the cervix, if seen early, is best treated by panhysterectomy and irradiation

3 Operation must still be considered the best treatment for carcinoma of the uterine fundus

4 There is no doubt that progress is being made with a better understanding of the physical properties and reactions of radium and roentgen rays and the added protection of this treatment is advisable in most cases of carcinoma of the uterus

TABLE 1

SQUAMOUS CELL EPITHELIOMA OF CERVIX; HOSPITAL MORTALITY BY TYPE OF TREATMENT

Type of Treatment	Total Patients	Hospital Deaths	
		Number	Per Cent
Operation	408	16	3.9
Operation and irradiation	374	6	1.6
Irradiation	2,760	28	1.0
TOTAL	3,542	50	1.4

TABLE 2

ADENOCARCINOMA OF THE CERVIX; HOSPITAL MORTALITY BY TYPE OF TREATMENT

Type of Treatment	Total Patients	Hospital Deaths	
		Number	Per Cent
Operation	38	3	7.9
Operation and irradiation	46	0	0
Irradiation	173	4	2.3
TOTAL	257	7	2.7

TABLE 3

CARCINOMA OF THE UTERUS; HOSPITAL MORTALITY BY TYPE OF TREATMENT

Type of Treatment	Total Patients	Hospital Deaths	
		Number	Per Cent
Operation	728	42	5.8
Operation and irradiation	456	2	0.4
Irradiation	394	6	1.5
TOTAL	1,578	50	3.2

TABLE 4

SQUAMOUS CELL EPITHELIOMA OF THE CERVIX; FIVE YEAR SURVIVAL RATES BY TYPE OF OPERATION *

Operation	Operation		Operation and Irradiation	
	Patients Traced	5 Yr. Survival Rate, Per Cent	Patients Traced	5 Yr. Survival Rate, Per Cent
Total abdominal hysterectomy	133	38.3	175	60.6
Vaginal hysterectomy	58	46.6	30	50.0
Other operations . . .	148	8.1	72	37.5
TOTAL	339	26.5	277	53.4

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* Inquiry as of January 1, 1945. Only cases of 1939 or earlier are included.

TABLE 5

ADENOCARCINOMA OF THE CERVIX; FIVE YEAR SURVIVAL RATES BY TYPE OF OPERATION *

Operation	Operation		Operation and Irradiation	
	Patients Traced	5 Yr. Survival Rate, Per Cent	Patients Traced	5 Yr. Survival Rate, Per Cent
Total abdominal hysterectomy	13	84.6	17	64.7
Vaginal hysterectomy	6	50.0	7	71.4
Other operations . . .	8	25.0	10	60.0
TOTAL	27	59.3	34	64.7

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* Inquiry as of January 1, 1945. Only cases of 1939 or earlier are included.

TABLE 6

CARCINOMA OF THE UTERUS; FIVE YEAR SURVIVAL RATES BY TYPE OF OPERATION *

Operation	Operation		Operation and Irradiation	
	Patients Traced	5 Yr. Survival Rate, Per Cent	Patients Traced	5 Yr. Survival Rate, Per Cent
Total abdominal hysterectomy	329	78.7	243	67.9
Subtotal abdominal hysterectomy	38	73.7	21	52.4
Vaginal hysterectomy	68	66.2	23	69.6
Other operations . . .	7	14.3	20	15.0
TOTAL	442	75.3	307	63.5

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* Inquiry as of January 1, 1945. Only cases of 1939 or earlier are included.

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3. Masson, J. C.: Carcinoma of the Uterus, New Orleans M. & S. J., 92:235-243 (Nov.) 1939.

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TABLE 7

HOSPITAL MORTALITY AND FIVE YEAR SURVIVAL RATES BY TYPE OF LESION AND TYPE OF TREATMENT

	Cervix					
	Epithelioma, Per Cent		Adenocarcinoma, Per Cent		Uterus, Carcinoma, Per Cent	
Type of Treatment	5 Yr Survival Rate	Hospital Mortality	5 Yr Survival Rate	Hospital Mortality	5 Yr Survival Rate	Hospital Mortality
Operation	26 5	3 9	59 3	7 9	75 3	5 8
Operation and irradiation	53 4	1 6	64 7	0	63 5	0 4
Irradiation	29 6	1 0	34 0	2 3	31 1	1 5
TOTAL	31 8	1 4	44 3	2 7	60 6	3 2

SUMMARY

In a detailed and comprehensive report on the results of a large number of cases of carcinoma of the uterus, the author offers the conclusion that, in carefully chosen cases, surgery offers the best hope of cure Adenocarcinoma of the cervix, if seen early, is best treated by the combination of panhysterectomy and irradiation Operation must still be considered the best treatment for carcinoma of the uterine fundus The added protection of treatment by radium and roentgen rays is advisable in most cases of carcinoma of the uterus.

RESUMÉ

L'auteur nous fait un rapport détaillé et comprehensif sur les résultats obtenus dans un grand nombre de cas de carcinome utérin L'auteur nous dit que dans les cas choisis avec soin, la chirurgie nous procure les meilleurs résultats L'adenocarcinome du col utérin dans les cas peu avances doit être traite par la panhysterectomie et l'irradiation Pour le cancer du fundus utérin on aura recours a la chirurgie Dans le carcinome de l'uterus comme supplement à l'exérèse, on aura dans presque tous les cas recours au radium et aux rayons X.

RESUMEN

En un comprensivo y detallado estudio acerca de los resultados en un gran número de casos de carcinoma uterino, al autor llega a la conclusión de que la cirugía constituye la esperanza más firme de curación El adenocarcinoma del cuello, si se descubre precozmente, se trata del mejor modo mediante la combinación de panhisterectomía e irradiación La intervención operatoria debe seguir siendo considerada como la mejor forma de terapeutica del carcinoma del fundus uterino En la mayoría de los cánceres del utero es aconsejable el complementar la terapeutica para mayor proteccion con radio y rayos X.

Свод

В детальном и исчерпывающем докладе результатов в большом количестве случаев рака матки автор приходит к заключению, что в осторожно выбранных случаях хирургия дает лучшую надежду на излечение

Адэнокарцинома шейки, если захвачена рано, лучше всего излечивается комбинацией панистерэктомии и радиации Операция все еще считается лучшим способом лечения рака тела матки Во всех случаях маточного рака рекомендуется добавочная протекция результатов радиацией радием или рентгенотерапией

Exomphalos

JOHN ALAN EAST, F.R.C.S. (Eng.), F.I.C.S.*
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EXOMPHALOS (Syn.; omphalocele, umbilical eventration) was first described by Ambroïse Paré in 1634. The condition is sometimes classified under congenital umbilical hernia; indeed, the Medicus Indicus so lists it, but it is certainly not a hernia in the true sense of that word, because some or all of the viscera found in the umbilical sac have never previously been within the abdominal cavity.

Exomphalos is a rare condition. Various statisticians have endeavored to arrive at the incidence, but their figures range between one in 5,000 and one in 11,500 births. Kleiner collected figures from various obstetric clinics in Leningrad and found it between one in 52,103 and one in 11,660. It is quite possible that the incidence actually is greater, because small herniations are often not entered in hospital records. The number of cases reported in the world's literature is comparatively small—about 300 cases. Of 10,036 examples of congenital abnormalities collected by Smith from the records of the Lying-in Hospital, New York, only eight were cases of exomphalos.

Obviously this anomaly is in some way connected with failure of retraction of the U-shaped loop. However, this explanation is not wholly satisfactory because normally the liver never obtrudes from the celom; yet in 30 per cent of cases of exomphalos, the liver is partly or wholly within the sac. In order to gain some understanding of the condition it is necessary to be familiar with the relevant developmental phenomena which result eventually in Nature's only scar, the umbilicus.

Embryology. If Mall's 7–7½ week embryos are examined, a considerable mass of convoluted small intestine and the budding embryonic cecum are extracelomic, lying in the sac at the base of the amniotic sac. By this time only one coil of small intestine is still extracelomic. During the tenth week, this solitary extracelomic coil follows its former companions into the peritoneal cavity. Normally the linea alba closes this cavity, first from the pubes to the umbilicus, later from the xiphoid to the umbilicus. In cases of imperfect closure, the defect would be more likely to be above the umbilicus, which is in keeping with clinical experience. Reviewing these facts, it must be conceded that in cases of exomphalos, something prevents normal retraction of the intestines, and having prevented it, causes or invites other viscera, notably the liver, to emigrate into the protrusion (figs. 1 through 4).

Etiology. The explanation for this developmental error is purely speculative. Berglass suggested that a discrepancy in the development of the abdominal wall and contents might result in insufficient intra-abdominal capacity. Mall has observed that just before the extrusion of the intestines into the exocelom, there is normally a rapid development of the liver. This may be the explanation of the presence of intestines in the exocelom in the normal (9 weeks) 32 mm. fetus. Later the lower abdominal cavity grows

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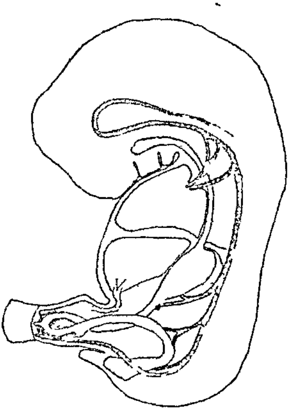

Fig 1. Diagrammatic sagittal section through human embryo about 10 mm long showing small intestine and budding cecum in exocelom. Umbilical cord is still straight, containing simple, straight loop of intestine. Liver is rapidly enlarging and filling abdominal cavity.

speedily and the intestines are withdrawn into it. Another theory to explain exomphalos is that for some unknown reason the lower abdomen does not grow sufficiently fast and some viscera are forced to remain outside of it.

It has been noticed that the omphalomesenteric duct, or its remains, are more frequently present in these as compared with normal cases. Ahlfeld has therefore suggested that one of the factors in this condition may be the holding of the abdominal contents in the umbilical cord by the persistence of the omphalomesenteric duct, however this certainly is not applicable to all cases.

Embom's theory is ingenious but not wholly satisfactory. He studied human and opposum embryos and came to the conclusion that the intestines are withdrawn into the abdominal cavity by contraction of the logitudinal smooth muscle fibres of the omphalomesenteric artery. A disturbance of this action may have some bearing on the nonretraction of the bowel, but certainly could not account for the presence of other viscera, e. g., liver, which develops from the gastroduodenal loop and is normally never in the exocelom.

Clinical features. The diagnosis is self evident as soon as the child is delivered. The protrusion which varies greatly in size, is limited by a transparent wall consisting of peritoneum, a thin layer of Wharton's jelly, and the amniotic membrane. Sometimes there is no peritoneal covering to the viscera in the protrusion as the peritoneum stops at the umbilical ring. Through the limiting membrane the viscera are exposed to view. That small intestine

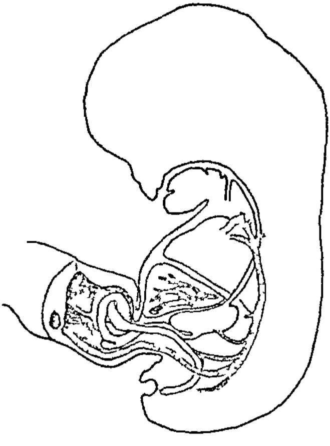

Fig 2. Diagrammatic sagittal section through human embryo 20 mm long, showing most of small intestine in exocelom. Marked loop formation, cecum well formed. Liver takes up most of abdominal cavity.

ies within is obvious and to be expected. From the clinician's standpoint, the important observation to make is "Does the sac contain the liver, or a portion thereof?" for, if so, the operative treatment is likely to be very difficult. Actually in about 30 per cent of cases the sac contains some part of the liver, and in 25 per cent contains practically all of it, as well as other viscera, notably the spleen. The uterus and ovaries, the pancreas and the urinary bladder—indeed, every one of the abdominal viscera—have been noted within the sac in one case or another.

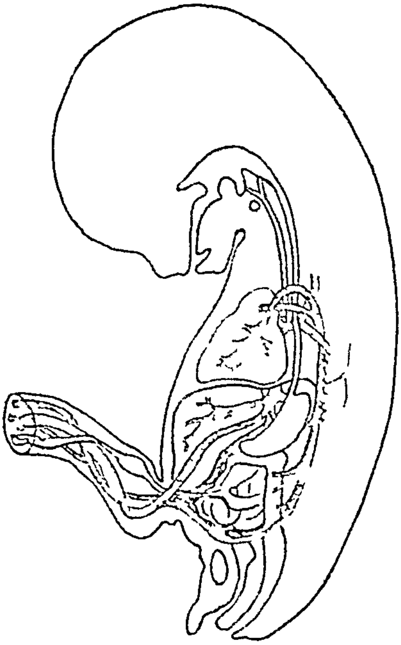

Fig. 3. Diagrammatic sagittal section through human embryo 10 mm long, all intestinal loops have now receded into abdominal cavity. Umbilical artery and vein have assumed normal position in cord.

As a rule, the skin stops short at the base of the sac but it may extend into it as much as half an inch. The umbilical cord, or what remains of it, is attached to the apex of the sac or to the inferior edge and, on lifting up the cord, the two umbilical arteries and the umbilical vein can be seen entering the abdominal wall inferolaterally. In other cases, the umbilical vein is seen displaced upwards coursing over the contents of the sac while the arteries keep their position inferior to the contained viscera.

Such are the appearances at birth. During between twelve and twenty-four hours afterward, the sac progressively becomes opaque. If it has not been protected and kept moist it may have ruptured. Evidence of commencing infection is likely to be present after the first day.

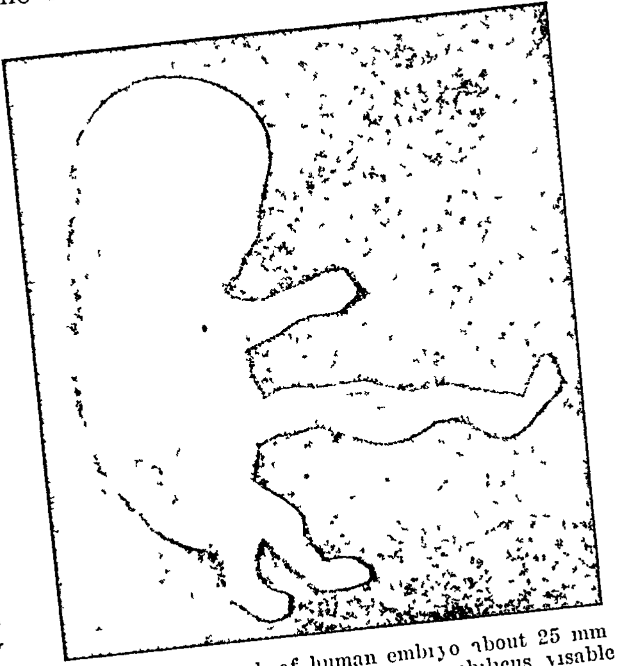

Fig. 4. Photograph of human embryo about 25 mm long, small intestine still outside umbilicus visable through wall of cord.

Associated congenital anomalies occu frequently. Gross and Bloodget, re viewing 22 cases in Children's Hospita Boston, found that half of these chi dren had other associated anomalie One child had Meckel's diverticulu which opened in the sac, one had a ha lip, two had clubfeet, two had inguin herniae, one had hydrocephalus, one h imperforate anus, two had undescended testicles, and one had multiple congenital abnormalities including transposition of the viscera.

Herzfeld collected 16 cases from the literature, and found that 12 had other congenital abnormalities. These consisted of cleft palate, spina bifida, meningocele, exstrophy of the bladder and vesical fistulae.

Anesthesia. Lambert Rogers carried out his successful operation without any form of anesthetic. Most operators have employed general anesthesia, which is well tolerated by these tiny infants. I have found that local infiltration with 1 per cent novocain, preceded by premedication of one minim of nepenthe, and one grain of chloral hydrate, is highly satisfactory. During the operation the infant is allowed to suck glucose water from a feeding bottle, and if the manipulations are gentle, crying with its accompanying contraction of the abdominal musculature, is avoided.

Treatment. The sooner after birth the operation is undertaken the better the progress. Without operation death from peritonitis usually occurs. An occasional case has survived when treated by conservative measures. Ahfeld's method consists in carefully cleansing the sac and the surrounding skin, reducing the contents of the sac as far as possible under light narcosis and applying alcohol compresses covered by a bandage. Unless, however, the circumstances are extenuating, the more certain method of operative repair is indicated.

Alder collected 72 cases from the literature and found that mortality, when operation is undertaken within twenty-four hours, is 12 per cent, but rises to 66 per cent if operation is done after forty eight hours.

Aribat, in 1901, cited 160 cases out of which 68 were operated upon with 47 recoveries (69%).

Altpeter, in 1931, tabulated 109 cases since 1900. Ninety-one were operated upon with 69 recoveries (76%).

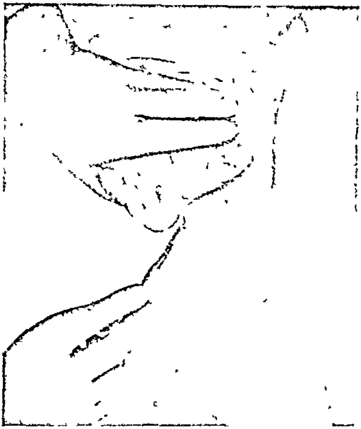

Fig. 5 Preliminary step in operation for reduction of exomphalos; incision from about 2 to 6 o'clock

In Gross and Bloodget's series (1940), 20 out of 22 cases were operated upon and 10 survived (50%). These authors showed that the survival rate is inversely proportional to the size of the sac, other factors being constant. Their actual observations were:

Sac less than 8 cm in diam ..	75 per cent survival
Sac 8 cm in diam	28 per cent survival
Sac over 8 cm. in diam .	17 per cent survival

They found that in eight cases where the liver was contained in the sac, only two survived.

Until comparatively recently, it was generally conceded that the presence of the liver, or a greater portion thereof, within the sac gave a hopeless prognosis. This gloomy belief has been disproved by successful operations by Lambert Rogers, Jarcho, Leonard Leys and others.

Operation. An incision is made in the skin a quarter inch from its junction with the sac on the left side. The incision extends from about 2 to 6 o'clock (fig. 5). It is deepened until the peritoneum is reached. This is opened carefully, and, keeping about a quarter inch from the opening, the sac is excised with scissors. Three vessels will be encountered, the two umbilical arteries and the umbilical vein. The umbilical arteries are fairly constant in position, viz. 5 and 7 o'clock; the umbilical vein in cases of exomphalos is displaced upwards and is encountered at one or other side about 3 or 9 o'clock. Knowledge of the disposition of these vessels enables them to be clamped before they are cut. The sac having been removed, we now come to what may be the difficult part of the operation, to wit, the reduction of the viscera into the peritoneal cavity. This follows accepted principles. A hot, moist pack promptly covers any coils which extrude. If the liver or a portion thereof, is outside, it is valuable to bear in mind Lambert Roger's dictum "Reduce hollow viscera first, and the liver last." If it is found that more room is needed, an incision through all layers of the abdominal wall upwards and outwards at 2 o'clock is advised. When reduction of the abdominal contents has been effected, they are kept in place with a moist swab on a holder. With a curved cutting needle armed with a long piece of stout nylon, a purse string suture is inserted through all layers of the abdominal wall, i.e. from the skin to the peritoneum, all the way round the periphery of the deficiency, about half an inch from the cut edge of the skin. It must here be explained that in many cases the abdominal wall in the neighborhood of the exomphalos is peculiar, in that the various layers are fused. The insertion of this purse string is therefore not so complicated as might be expected. If the extension referred to above has been necessary, this is disregarded for the time being. The purse string suture is tightened by steady pressure and at the appropriate time the swab on the holder is removed. It will be a source of considerable satisfaction if, on tying the suture, the abdominal wall comes together, even with considerable tension. If the extension incision at 2 o'clock has been made, this is now repaired by interrupted sutures. Finally, mattress sutures in the skin reinforce the newly formed umbilicus.

Special difficulties. When the liver is difficult to replace, Freshman's method should be tried. He wraps the protruding part of the liver in a hot, moist swab and squeezes it for some moments. This efficiently reduces its size and allows replacement. When it is impossible to reduce the liver, or to do so would require enormous tension, insert the purse string in the skin and subcutaneous tissues only. These are very elastic and will allow the viscera to be covered.

CASE REPORTS

I have treated three cases within the last 4 years.

Case 1. A.B., aged 24 hours; full term, female infant weighing 6¾ lbs. She had an exomphalos 2 inches in diameter, containing small intestine visible through a translucent membrane. The operation was done under a local anesthetic. The contents were easily reduced and the post operative course was uneventful. The infant was well at three months of age and had a smooth scar one inch long. Afterward, because of the war conditions, the child could not be traced.

Case 2 Y S, aged 12 hours, female, full term infant She had an exomphalos 3½ inches in diameter, containing small intestine visible through the sac Operation was performed under open ether anesthesia The reduction was difficult and twice during the procedure *practically all the contents of the* abdomen were extruded Inadequate depth of anesthesia was probably responsible for this difficulty The patient made an uneventful recovery and was last seen at the age of three months, when she was quite healthy I learned that she died at home at the age of six months from some respiratory disease, the nature of which was not ascertainable

Case 3 G, aged 36 hours, male, weighing about 6½ lbs The infant had passed no meconium since birth, and had an exomphalos about 2½ inches in diameter The membrane covering the sac was dull white in color and completely opaque At one point it had necrosed and the mucous membrane of the small intestine was pouting through it There were two other areas of necrosis but the bowel there so far was intact The sac was opened under local anesthetic and a very much hypertrophied proximal loop (small intestine) together with a narrow but patent distal loop were found There was a perforation at the junction of the two loops In all the areas of necrosis, the coverings of the sac were adherent to the bowel wall and no attempt was made to separate them The perforation was closed with a catgut stitch, and the bowel reduced after extending the incision The patient did not pass meconium for three days but finally obliged A barium enema was given during this period but did not fill the colon The patient when discharged on the eighth day was passing feces normally and was quite fit This case is recent and has not yet been followed up

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I wish to express my gratitude to Mr Hamilton Bailey for great encouragement and suggestions, and for the loan of a diagram, to Mr Philip Berry, Medical Supt, County Hosp, Chatham for permission to publish this article, and to Dr M Mackenzie for drawing the excellent diagrams

RÉSUMÉ

L'exomphalos est une condition rare L'auteur nous donne l'historique de différents cas rapportés dans la littérature. Les aspects cliniques de cette condition sont énumérés et suivis de l'embryologie et de l'étiologie de cette entité L'opération pour la correction de cet état est décrite. Trois cas de l'auteur sont rapportés. Ces trois cas furent opérés avec succès

RESUMEN

La hernia de vísceras abdominales en el cordón umbilical es un estado patológico muy raro. El autor, después de estudiar la historia de los casos de que se ha dado cuenta, analiza las características clínicas de este estado y discute su embriología y etiología Describe a continuación la técnica operatoria para su corrección quirúrgica y da cuenta de tres casos propios operados con éxito.

Свод

Эксомфалос (пупочная грыжа) случается редко После обсуждения истории доложенных случаев автор дает клинические черты этого условия и обсуждает его эмбриологию и этиологию Он описывает коррекционную операцию и делает доклад трех случаев из своего собственного опыта, из которых все были успешно оперированы

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The Choice of Treatment for Carcinoma of Cervix Uteri

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> "A beautiful operation that results in the death of the patient is not satisfactory surgery."
> —J. Horsley

THE problem of treatment of uterine carcinoma is one of the most complex, and, as yet, there appears to be no definite trend because we have to consider four types: carcinoma of the corpus uteri, carcinoma of the endocervical canal, adenocarcinoma (3 per cent of the total number of uterine cancers); and finally squamous cell carcinoma of the cervix, which is the most frequent.

There are three different problems, allowing us, when dealing with the treatment of those of greater frequency (i.e., carcinoma of the cervix), to report that it is characteristic of carcinoma of the corpus uteri to be more radio-resistant than is that of the endocervical canal. The reason why I have chosen this topic for our present discussion lies in the following fundamental facts:

(1) My belief as a surgeon that, surgical exéresis is the preferable treatment, and may be carried out with greater chance of success than any other method. We have in our records hysterectomies for cancer of the cervix (Wertheim) with a period of cure of 34 years (!) and we have, during the same years observed but 5.2 per cent of surgical mortality;

(2) The possession of records of 2,046 cases at the "Hospital Escolar de Santa Marta" and at the Portuguese Institute of Oncology, covering the period from 1912 to 1938 inclusive, which have been treated by radium, X-ray and radium combined, or by combined operative and radiologic treatment;

(3) Careful analysis of figures, existing at the Portuguese Institute of Oncology, which enable us to compare the results obtained by irradiation with the data furnished by the operative clinic, all based on histological examinations.

The factors we have just mentioned, as well as a long surgical practice permitting the survey of thousands of cases, the good clinical material at our disposal and the collaboration of specialists, have allowed us to formulate an opinion which is the result of twenty-seven years of study. This analysis has been made after more than 40 years of professional practice and studied objectively after six years from the point of view that operative treatment is the best and surest method in the definite cure of cancer, in most locales, *provided an early diagnosis is made.* Too great emphasis can never be placed on this banal but frequently neglected factor of early diagnosis, which often means the difference between failure and cure.

In the case of uterine carcinoma, diagnosis seems simple. In truth, if the women who report any genital lesion are periodically examined—although there may be no history of hemorrhage—and at any age (we have in our records a carcinoma at nine years of age and another at twenty-six)—as well as women who have had children or those who are over 40 years of age, it is evident that the number of early diagnoses would increase, as proved by Winter.

However, we are not concerned at present with diagnosis but rather with the problem of treatment, for which we are going to make suggestions Let us then consider which is the ideal treatment for uterine carcinoma and how that treatment should be applied in different localizations, i e, corpus uteri, cervical canal and cervix I fear that nobody will agree with me when I affirm that a specialization, whatever it is, is likely to influence the physician's mind, but that is, unfortunately, a generally prevailing truth This was so apparent that the Health Section of the League of Nations found it advisable to commit the study of this important problem of carcinoma to a group of competent surgeons, gynecologists, radiologists and roentgenologists

One has to consider also the kind of growth, from the histological point of view, its primary localization, the age of the patient, also the regularity of treatment, the technic and dosage used, conditioning in such a way the whole aspect of the problem that the conscientious deliberation of the physician in each individual case becomes a serious responsibility One has also to bear in mind that the practice of medicine forms, over a period of time, a background of clinical impressions which are not always confirmed by a cold analysis of gross statistics This indicates how easily we are led into misconceptions of diagnosis from which errors in treatment have often arisen I, for my part, think that we must allow time to influence our opinion, which is why I have studied our statistics of uterine cancer, from a more distant period, from 1912 to 1938 Since then, the number of cases has increased yearly and our methods of treatment have been reviewed, but, although greater attention has been given to the matter and consequently better results may be expected, a minimum of five years, according to the rules, must elapse before the results can be published How often our enthusiasm over a supposed cure has proved to be bitterly disappointing!

The League of Nations (Health Organization—Cancer 67) has issued some rules which Heyman, of the Radiumhemmet, edited, these have been translated into Portuguese by Dr E Lima Basto and published under the auspices of the Portuguese Institute of Oncology The different stages and phases of carcinoma of the uterine cervix are well defined in it, but the interpretation of the same as well as the observation of the patient show that it is often very difficult to classify each case Moreover, our personal view of the matter has always to be taken into account for we may be led subjectively to form wrong impressions Therefore, the problem cannot be approached rigidly, but it is hoped that the conclusions drawn from an analysis of our figures, based on thousands of cases and studied after a period of time, are a more reliable and a surer guide for us in our behavior towards each individual case I am not going to report figures which have already been published in detail in the *Arquivo de Patologia* There a brief survey shows the reader that, as regards statistics, our Institute is following the same criteria as those established by the League of Nations and adopted by all the cancer prevention clinics

This enables us to carry on the analysis of such a difficult problem, provided the interpretation of the statistics and of each individual case is made with a sound knowledge of pathological anatomy Certainly, if we are only but slightly acquainted with the progress and development of each kind of growth, with its spread by the lymphatics and the influence of its early localization, how are we to consider the best type of therapy? The strict formula:

Stage I — operative or radiologic treatment;

Stage II — indisputably better results with radiation;

Stage III — radiotherapy only; and

Stage IV — palliative treatment alone with, in many cases, no irradiation; has only relative value as a guide in therapeutic procedures, which should be conditioned by clinical knowledge and practice.

Statistics offer then a general basis for investigation but they cannot satisfy the physician, since all cases do not fall readily into a definite classification. The difficulties which obstruct the physician's path are so great that, before making a decision, careful and repeated clinical examinations of the patient are necessary. An example will emphasize this point.

In our records of the First Surgical Clinic—formerly a cancer prevention clinic—we have two observations: Nos. 449 and 4512 of the same patient—the first dated April 7, 1915; the second, April 12, 1928—a period of cure of 13 years, for a carcinoma of the cervix which the cystoscopic examination would have listed as *stage III–IV* and the gynecological as *stage I.* In 1915, surgical intervention was considered advisable and Wertheim's operation (the current name for total abdominal hysterectomy), suggested. These were frequently performed in our Clinic. Before the operation, a catheter was introduced in each of the ureters, as a sure guide in the separation of the parametrium. Bumm's technic, however, proved the uselessness of this procedure. In the case of the patient, No. 449, cystoscopy revealed lesions of the vesical mucosa, the cause of which was attributed to the spread of the carcinoma. Accordingly, the case was classified as of stage III IV and hysterectomy was consid- [illegible]. We then decided on electro- [illegible] of the cervix uteri such as had been regularly performed since 1912. The lesion healed and the patient was considered as clinically cured as proved by a later cystoscopic examination.

The lesions were due to septic lymphangitis and not to the development of the growth. Despite the healing of the cervix, we decided to perform a hysterectomy following the technic of Bumm. The histological findings (Geraldino Brites) revealed the existence of carcinomatous cells under the scar of the cervix wound which proved that surgical intervention was necessary.

This patient died in our Clinic, 13 years after the operation, from septicemia caused by suppurating angiocholitis, arising from septic cholecystitis with calculi.

She died from angiocholitis but the signs of cure in the uterus were still evident. No spread of the growth nor metastases had occurred (autopsy performed by G. Brites). This period of cure of 13 years is ascribed to the hysterectomy, since examination of the uterus with carcinomatous cells gave us reason to doubt the possibility of a permanent cure without surgery, although our records mention some curious cases of a longer period of cure, but with no guarantee of the absence of tumor cells. This can prove a serious problem in the field of cancer pathology and therapy. At that time, we were mistaken in the classification of the stage of the tumor even as we might have been today.

Electrocoagulation, which modern apparatus has rendered, since the period 1912–1913, a safer and easier surgical procedure, contributed to the healing of the growth; nevertheless, a cancerous nidus persisted which would have shortened the life of the patient, if hysterectomy had not been performed. Cystoscopy is practised today as a routine, in radiotherapy, for the early diagnosis of the invasion of the parametrium by the trigone.

Clinical examination as well as radium therapy should be done by gynecologists exclusively, since the interpretation of the former is difficult, and practice alone can avoid the causes of failure The treatment of carcinoma uteri should be carried out only when we have at our disposal the means of performing

(a) curative surgery (panhysterectomy),

(b) palliative or complementary surgery (ligation of the iliac arteries, extirpation of the glands, extirpation of the presacral plexus, and other kinds of pain preventing surgery),

(c) roentgentherapy,

(d) radiumtherapy or

(e) diathermy in its different forms

These are the chief resources in cancer therapy and it is with these aids that we have been working and the help of our collaborators—since 1912, and, at the Portuguese Institute of Oncology, under excellent conditions, since 1930

What do we require then from each of the therapeutic procedures? Let us start with X ray which sterilizes the neoplastic ulceration before the administration of radium, and by blocking off the lymphatics which tend to diminish or prevent the spread of the growth It is not assumed that glandular metastases will be cured by these means, since no one could reasonably expect that cancerous glands can be successfully sterilized The experience we have had with cervical glands (cancer of the tongue) and axillary glands (cancer of the breast) shows that palliative results can only be obtained by means of periglandular sclerosis Since we know how often, in cases of carcinoma uteri, enlarged glands which are not metastatic are found (as proved by histologic examination), we cannot guarantee the cure of metastatic glands by clinical examination only

Adenitis arising from inflammation or sepsis diminishes or disappears with roentgen irradiation, but it would be exceptional to find the same results in enlarged glands with carcinomatous metastases, due to the radioresistance of ganglionar metastases and the difficulty in providing good treatment conditions Is it not proved by the histological examination of the extirpated glands, in cases of hysterectomy for cancer, that even in the borderline of *stage I*, in the surgical cases of early *stage II* and those of *stage III*, with nodular pelvic metastasis, one may find only glandular hypertrophy without metastasis?

This problem of radioresistance has not as yet been solved, since we are still ignorant of what can be obtained through the high voltage radiation of 1 million volts, as well as through the new technics in radium therapy It is known that the radioresistance of the intracervical adenocarcinomas has been exaggerated, however, statistics have proved that they are susceptible to cure by irradiation in 25 per cent of cases

The effects of roentgentherapy are also considered a great help in post radium therapy, as a complement

Many patients in *stages I* and *II* some in *stage III*, and a few in *stage IV* are cured by radium irradiation This conclusion is based on a survey made on 2,046 patients treated by radium from 1912 to 1938 We excluded those who did not receive any treatment, those who could only receive palliative roentgen irradiation and those on whom operation was performed Fifty eight cases of isolated carcinoma of the cervix were also treated by radium or X ray, including Chaoul's low voltage contact therapy Sixty three cases with recurrence after Wertheim's operation, were sent from other services, almost all of them were treated by X ray Those in *stage I*, according to international statistics, over one third of the patients have been cured for longer than the five year period In *stage II*, almost one third of those who received treatment, are cured; in *stage III*, only 2.5 per cent and in *stage IV*, if no case of cure has occurred among those with whom we have lost contact, there are no cures.

Now, in *stage I*, in comparing the results of radium and surgery, we have to consider them according to the primary localization and the morphology of the carcinoma. In the ulcerating form of *stage I*, 51.6 per cent of the cures are obtained by irradiation. Since this number is higher than that secured through surgical intervention, operation is not advisable, as the risk of surgical death is relatively high. But in the terebrating form of *stage I*, crateriform, which may be easily confused with *stage III* (isolated pelvic metastasis), although neoplastic glands occur only in one-third of the cases—with only 13.2 per cent of cures—the surgical approach (even considering the 5.2 per cent of operative deaths occurring among my patients), brings better results. No definite statement can then be made about *stage I* as to whether irradiation or surgery are dependent on our personal view of the matter or on our own field of specialization. We believe that the ulcerating form of *stage I* is predominantly dependent on irradiation: *stage I* in its terebrating form, crateriform, the nodular form (with only 20 per cent of cures) and the adenocarcinoma, arising from the cervical canal or from an ectropion, should be managed surgically. There is also the vegetating form in which success is more or less evenly balanced, allowing us to make our choice of treatment. It is useless to say that the general condition of the patient will sometimes make operation advisable in some ulcerating or vegetating forms; in the same way, irradiation may be considered advisable as regards some terebrating or nodular forms. Combined radiotherapy—radium and X-ray—is advised for *stage II* in all its forms.

Diathermy is not supposed to cure cancer of the uterine cervix, in spite of its possibilities in helping it. However, healing does not mean cure, as has already been proved. Electrocoagulation alone provides us with better sterilization previous to radiotherapy or hysterectomy. Besides, diathermy prevents post-irradiation sclerosis and constriction of the vagina, as I proved to the French Association for the Study of Cancer, on July 16, 1930 and which is still carried on as a routine procedure at our Institute.

Tripolar diathermy may afford valuable help when carcinoma of the cervix is associated with nearby inflammatory lesions. However, the scar caused by healing of the ulceration must be frequently examined; this will possibly arrest the evolution of a possible neoplastic focus.

Diathermy and electrocoagulation are chiefly of value in the prevention of cancer of the cervix. In 1936, Charles Larkins affirmed in New York that 90 per cent of the patients who go to a physician with cancer of the cervix, die, since they seldom apply for treatment at the beginning of the lesion. That was the situation ten years ago, but publicity and the education of the people have brought about better conditions and, with George Pack, we can say that—on the whole—there is a rate of 25 per cent cure.

Among 18,000 women, on whom electrocoagulation was performed, Hunter, Pembreton and Smith have observed only 33 cases of cancer of the cervix, after ten years, while Chase was able to prove before the Society of Medicine of New York, that, after the age of 38, one woman out of nine suffers from carcinoma of the cervix. At the Portuguese Institute of Oncology, we have an early average of 500 electrocoagulations of the cervix

Before irradiation was considered as a method of therapy for uterine cancer, palliative surgery constituted our most valuable help when a hysterectomy proved to be impossible, and hemorrhage and pain were present Kroenig proved that the ligation of the two hypogastric arteries was free from danger and had no bad effect on nutrition, this operation may be considered an hemostatic procedure Harting uses this operation for both operable and inoperable cancers We started by using it as the first stage of hysterectomy but, when we decided to adopt Bumm's technic, we found ligation unnecessary However, it is still used as a palliative measure

Some years ago the Portuguese Institute of Oncology started a curious investigation which is being led by Prof Sousa Pereira, it consists in ligation of the hypogastric arteries and resection of the presacral ganglia combined with irradiation, for cancer of *stages II* and *III*, as it was first performed by H Eisenover This is on the basis that an ischemic surface allows radium to have greater power of penetration and consequent destruction of the growth cells The school of Barcelona, with Conill, considers favorably this therapeutic procedure and holds it in high repute Nevertheless, time and the number of cases have, as yet, not proved its value Neither did the experiments conducted at the Portuguese Institute of Oncology confirm its good results, although it is still very early to pronounce a definite judgment on the matter Besides, radium necrosis in poorly irrigated tumors is a frequent occurrence and that, as every one knows, is likely to prevent a cure

After all, what are we asking from surgery as a means of cure? We ask a long period of cure, which Stoeckel obtained in 45 8 per cent of surgical cases, with the smallest mortality rate [even reduced to 0 by Chutro (Buenos Aires) in one of his last series] But these figures are exceptional, since the rate of operative mortality oscillates between 8 and 15 per cent, and may go down even to a lower rate in *stage II*

After irradiation there have been sudden deaths from septicemia However, septicemias, pyometritis and deaths from treatment are not likely to occur in institutions where good technic is used These statements keep within the rules established in the beginning of this report on the different characteristics of *stage I*, since no good results are expected from operation in *stage II* or in the more advanced stages When the spread of the growth compels us to section the cancerous tissue and to graft the growth in the raw surface there is for the conscientious surgeon no possibility of doubt or even of comparison between the two therapeutic procedures In these cases, radium and X-ray afford cures which surgery can not do

I wish to emphasize that palliative surgery in *stage III* (isolated pelvic metastasis) is likely to be changed, in some cases, to therapeutic surgery, provided laparotomy will show a limitation of the lesion And, since two thirds of the glands are not cancerous, we are faced by a *stage I* case, erroneously classified as *stage III*

Hysterectomy is usually performed through one abdominal incision with Bumm's technic, since this affords the possibility of examining the abdominal cavity and any glandular lesions, and allows a more radical approach than the vaginal technic It has given us a surgical mortality rate of 5 2 per cent In the period under review, I have had only one case of vaginal hysterectomy, this being performed because of obesity

The operation was successful and the patient had a long period of cure.

I have also had a case of extirpation of the cervix for sarcoma in pregnancy with delivery at term and cure, and two cases of amputation of the cervix with cure. Nevertheless, these cases cannot, because of their rarity, influence our opinion in the matter.

We have performed Wertheim's operation with a period of cure of 34 years, but we also have cures effected by radium, a more recent treatment than surgery, lasting a period of more than 20 years. We must stress that surgery gives a somewhat high mortality rate, while radiumtherapy does not cause death.

Our experience, of over 40 years, initially meant surgery for uterine carcinoma. Later we combined operative and roentgenological treatment. After 1912, radium was used in addition to the other treatments, first in precarious surroundings, but now, for 14 years, in well equipped services and with the collaboration of a devoted personnel. All these factors allow us to form an opinion which, although not definitely settled, does permit us to progress on a secure basis.

From our personal observations and from what has been said we believe that, with the help of our collaborators, the fight against uterine cancer can be established on the following principles:

(*a*) The idea of cure in *stage I* must necessarily be instilled into the public mind as well as the assurance of its prophylaxis through the treatment of pre-cancerous conditions. Hence it is assumed that any woman suffering from gynecological troubles must be examined as well as the women who have had children or who have suffered abortion. Only the normal cervix where no uterine or vaginal discharge is observed will leave no doubts. This convinces us of the absolute necessity of periodical gynecological examination for prevention of uterine cancer.

(*b*) When the patient has been examined and a suspicious lesion found and after the Schiller's test, the Chroback and Clark tests have been made, and Hinselmann's colposcopy done, a biopsy, including healthy tissue must be performed. When the lesion is circumscribed and doubtful, electrocoagulation is done and the patient kept under observation. In neoplastic and ulcerating lesions, the cleaning of the ulcer must be thoroughly done by means of X-ray, which is also used for blockage of the lymphatics.

(*c*) Following the pre-radium roentgen irradiation, the patients enter the hospital for radiological treatment, according to the technic and principles already stated in *Arquivo de Patologia*. During the period of radium treatment, the patient is carefully observed—temperature changes noted, repeated blood tests given, any pain or micturition disturbances noted, cystoscopy repeated if necessary for comparison or as a guide in the re-application of radium.

(*d*) Forty-eight hours after radium is applied, diathermy treatment is started, followed after ten days by post-radium X-ray. The observation of the patient must be continued, once a month, for a period of six months; during the three following years, every three months, and, subsequently every six months.

I should now like to call your attention to the vesical and rectal phenomena which are likely to occur after irradiation and should not be mistaken for those arising from the development of the carcinoma. It is in the most advanced forms—those requiring a greater dosage and causing, through the harden-

(Continued on page 455)

Microscopically Verified Success of Pinch Homografting in a Human Case*

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FOR decades experiments on homo- or isotransplantation of the skin have been carried out and a practical method of application in human cases has been tried for again and again. Apart from a few cases in which circumstances were of a particular kind (cf. below) they were all failures. It is only the importance attached to this method that has shifted in the course of time. While Lexer[1] (1925) could still say with a certain justification "The discussion on the possibility of homotransplantation is still in progress although there is no special need for such a method," today Brown and McDowell[2] are right in saying, after skin transplantation in the treatment of injuries and burns has enormously developed. "If the problem could be solved one of the greatest possible advances would have been accomplished."

The fact, however, that skin or layers of skin cannot, up to the present day, be transferred from one human subject to another with a reliable prospect of "taking," although not sufficiently appreciated (Medawar[3]), has received corroboration by the reports on failures published in the literature by a number of authors (cf. ref. 1–21).

In several of these cases, after a "take" of the homograft was noted for a certain length of time, it suddenly melted away. While this has been stressed by several authors (Brown[16], Brown and McDowell[2]), others were deceived by the satisfactory reduction in size of the defect underneath the graft or even its closure which led to the erroneous conclusion that homotransplantation had actually been successful. We ourselves also saw this happen, but very soon detected our error thanks to thorough microscopic examinations. But it was obvious that here, similarly to the case of failure to "take" of full thickness skin grafts with gradual or rapid sloughing, the covered wound surface showed indications of a more rapid healing and it is not altogether impossible that unknown substances originating from the graft may promote healing ("necrohormones"), but to speak in cases of this kind of successful transplantation would be absurd.

Real success with skin homotransplantation was only reported after the transfer of skin of newborn babies on adults (Schoene,[10] 1912) and further in identical twins. Of the 44 cases of skin homotransplantation reported by Padgett[14] only two were successful, both being carried out on identical twins.

The same negative results as in practice have so far been obtained in animal experiments, although everything has been tried to render possible a successful homotransplantation: vital storing by blocking of the reticulo-endothelial system (Lehmann and Tammann[21]), preparation of the donor by protective substances towards the serum of the future recipient in order to mitigate his defensive reaction or *vice versa* (Rohde[22]), treatment by blood, serum, plasma, extracts, etc.

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Skin transplantation in parabiotic animals was successful as long as the skin tube joining the animals was there. After this communication had been severed the grafts fell off. Splenectomy in the host animal (Carrel) was just as little successful as experiments set up with a view to intercepting the white blood corpuscles and concentrating them elsewhere by artificial abscess formation, thus diverting them from the graft. An increase of the blood supply, locally, by mechanical methods or vasodilator drugs and even the establishment of maximum blood flow by means of cutoomentopexy (Mandl and Rabinovici[23]) were failures. Also, according to our latest knowledge, identity of blood group is not decisive for the success or failure of homotransplantation of skin.

Naturally, quite a number of theories have been put forward to explain the negative results of skin homotransplantation in the human subject. These have just recently been comprehensively reviewed by Medawar.[3] He distinguishes among (1) The blood group or natural immunity theory, (2) The theory of acquired immunity, (3) The cellular theory according to Loeb[24] or —as would seem more appropriate— the "theory of the different organisms."

None of the reasons forwarded to explain the failures is satisfactory. The question, therefore, has still to be regarded as unsolved; up to the present day it is not clear whether cellular or humoral processes are responsible for the failure of the skin to "take" in homografts. Setting aside the cases in which skin homografts were successful in identical twins, the few successful cases reported are certainly due to faulty observation; according to our own experience which, in the main, consisted in disappointments, we agree with Padgett[14] when he said: "For all practical purposes, homotransplantation of skin may be relegated to the realm of medical mythology."

Quite recently, three reports have been made in the literature dealing with the "taking" of skin homografts in humans, with the purpose of describing and studying permanent healing or to *distinguish the latter from a transitory* or provisional "taking."

(a) In an extraordinarily exact study, Gibson and Medawar[25] describe how, on the forty-first day after an accident with extensive burns, they covered the large granulating surface with a set of 52 autografts and at the same time with 50 "pinch" homografts taken from the patient's brother. Fifteen days after the first series, another set of 28 pinch homografts was taken from the same donor and again applied on the granulating surfaces. In a continuous series of experiments, with every change of dressing, specimens of the pinch auto- and homografts were removed and subjected to a thorough microscopic examination, while, as a matter of course, the gross aspects of the two types of graft was continuously watched.

Degeneration of the homografts (which, to begin with, did not differ in their behavior from the autografts) began as early as the fifteenth day and was apparent to the naked eye, being complete on the twenty-third day. In the second series of pinch homografts, degeneration of the transplants was already distinct on the eighth day.

The gross changes were paralleled by microscopic signs of degeneration which are very comprehensively described by the authors and illustrated by photographs.

(b) Harris[26] describes a very neglected case of burns in a girl of 12 in whom, twice, with a certain interval, skin of the child's father was used for transplantation. The thickness of the graft was 0.014 inch (.0356 cm.) and its diameter 10 to 15 cm. Both times the graft is said to have taken. The results are described as excellent, and attributed to the fact that the coagulum-contact method of Sano[27] was used, plasma as well as cell extract being taken once from the girl and once from her father. The nomenclature and the descriptions given in the paper are somewhat unclear and no microscopic findings have been added. The photographs attached to the article are insufficient to form an opinion on the case.

(c) A few references are to be found in the literature according to which the preputiom removed on the occasion of ritual circumcision—which is usually done on the eighth day after birth—has been used for homograft. Ashley[28] described positive results with this method. Favorable results were also reported by Sachs and Goldberg.[29] The authors added photographs showing grafts which, apparently, had taken satisfactorily; in only one case had the graft come loose after a certain time. Microscopic findings—which are the only criteria of survival of a graft—are not available. This method was also tried at this department by Dr. Kook but since microscopic verification is still being awaited, nothing can be said so far about results.

After a number of failures, the following case, which is given in great detail, was the first successful one to show a genuine "taking" of a pinch homograft:

CASE REPORT

The patient, aged 29 years, was admitted on account of an industrial accident (explosion of a gas cylinder) in a state of severe shock. The skin and mucous membranes were pale, he was sweating profusely, his pulse was weak, small and so rapid that counting was impossible. There was hypotension and the extremities were cold.

The patient presented a traumatic semi-amputation immediately above the right knee joint. After blood and plasma administration, amputation *en guillotine* was performed, in the upper third of the thigh.

After the operation, the patient ran a temperature varying between 38 and 39° C. (101.3 and 104° F.), which, however, subsided on the eighth day and remained stationary between 37 and 38° C. (98.6 and 101.3° F.) for a period of 100 days, after which it returned to normal.

On the twenty-first postoperative day, extension was applied to the stump and was maintained for a period of eight days.

Although healing was not bad, grafting was decided upon and was carried out on the forty-fourth postoperative day. The size of the wound was then 8 by 5 cm. (3.14 by 1.96 inches). Granulation was satisfactory and the edges showed slight epithelization.

For grafting, eleven autotransplants of the pinch graft type were used (according to Davis[30]) in the upper and lower portion of the wound while on the central part six homotransplants of the same type were grafted. The grafts were evenly distributed at a distance of 0.5 to 1 cm. from each other. The homografts were taken from another patient (who incidentally was of the same blood group) who was 41 years old and not related to the first patient.

The grafts were fixed to the wound bed by autoplasm and thromboplastin prepared from placental extract according to the method devised by Finkelstein and Zondek.[31]

The first change of dressing was made six days later; the homografts were inspected regularly every two days (for microscopy cf. below). After 43 and 50 days, respectively, the homotransplants were excised, fixed in Zenker's solution and examined microscopically.

Simultaneously with the last excision at the place of the previous transplantation, a second homotransplantation of the same kind was tried. The transplants were taken from the same donor and the same site and transplanted on exactly the same spot where the previous ones had been excised, using again the plasma-thromboplastin method. Four days later, when the dressing was changed, they were found completely to have disintegrated. A fibrinous, coffee colored crust had formed instead.

Gross appearance.—Clinically, the behavior of the homografts was not different from that of the autografts; during the entire period that they were watched, the homografts presented no changes apparent to the naked eye (fig. 1). Their color all the time was pink, their shape unchanged, their consistency soft and elastic, they could not be mobilized by pressure. There was neither inflammation nor blistering of the epidermis nor any other local reaction on the part of the host organism recognizable by the naked eye. The only remarkable feature was the starting of epithelization of the wound bed in the periphery in a direction towards the homograft, never the other way round, from the graft to the periphery.

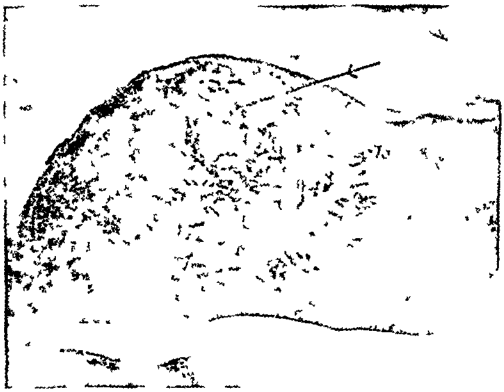

Fig 1 Gross appearance of homo pinch grafts, 43 days after transplantation

Microscopy of the excised homografts.—The graft has completely integrated into the host organism but is sharply demarcated towards the periphery by a slight lymphocytic infiltration and a barrier of newly formed distended capillaries (fig. 2). The [illegible] graft is continuous; the [illegible] normally distributed At [illegible] spinous cells of the [illegible] irregularly dis- [illegible] mitoses [illegible]

Underneath the entire length of the base of the epidermis and occasionally penetrating it, slight lymphocytic infiltration of the round cell type and isolated pigment cells are to be seen. The polyhedral cells of the Malpighian stratum are normally distributed and arranged in multiple, regularly stratified layers There are a few cells with vesicular cytoplasm in a process of cornification. The stratum corneum is also normal in regard to its general structure and architecture.

The boundaries of the epithelium of the graft can easily be made out, owing to the lymphocytic infiltration which begins exactly where the epithelium stops, thus sharply separating the graft from the rest of the wound. Unlike the epithelium of the graft, the newly formed epithelium of the rest of the wound presents no papillary indentations. Lymphocytes as well as pigment cells are equally absent As shall be seen later, the elastic fibres present at the base of the epithelium of the graft are absent in the newly formed epithelium covering the rest of the wound.

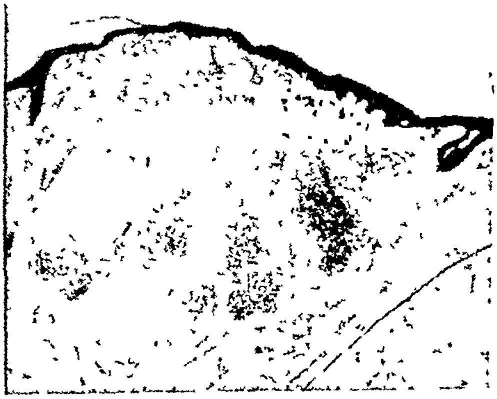

Fig. 2 Photomicrograph 50 days after transplantation; graft integrated with host organism but sharply demarcated towards periphery by barrier of lymphocytic infiltration and newly formed distended capillaries.

The derma of the graft has a normal architecture and is composed of normal connective and vascular elements. It penetrates deeply into the epidermis in the form of regularly distributed dermal papillae containing a slight degree of round cell infiltration The vessels a[illegible]mal without any sign of engorgement [illegible] is no lymphocytic infiltration [illegible] newly formed capillaries The [illegible] elements within the graft [illegible] In the dermal papillae and immediately underneath the germinative stratum of the epidermis they form a dense network parallel with the general direction of the epidermis and consist of delicate elastic and collageneous fibres

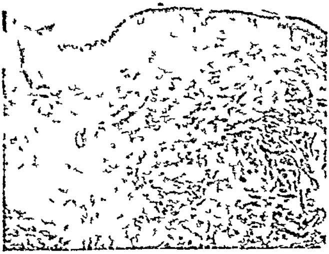

Fig 3 Photomicrograph (50 days after transplantation) showing connective tissue of graft normal and disposed in thick bundles in contrast to thin and fine ones of wound bed

There is a second network underneath and perpendicular to the first consisting of thick bands of collageneous and elastic fibres (fig 3)

Between *these connective elements* there are isolated fibroblasts lymphocytes and migrating cells of the macrophage type A few of the hair follicles show a surrounding lymphocytic infiltration

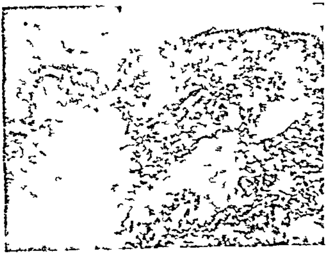

Fig 4 Shows normal structure of two layers of elastic fibrils with lymphocytic infiltration at border of graft where elastic tissue stops abruptly (50 days after transplantation)

Special staining for elastic tissue reveals the presence in the grafts of elastic fibrils richly developed and of normal structure and architectural disposition In the dermal papillae the elastic fibrils are of a very delicate type and form Beneath the germinative stratum of the epidermis a fine network occasionally invades the epidermis between the *spinous and polyhedral cells of the Malpighian layer* (fig 4)

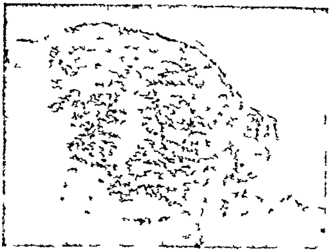

Fig 5 Shows elastic tissue of normal structure and architectural disposition in graft only indicating exact shape and limits of graft (50 days after transplantation)

Underneath the first, another stratum is *to be seen composed of thick long, undulating* fibres irregularly distributed, crossing one another in all directions (see fig 3) The same fibres are contained in the walls of the large and small blood vessels of the graft and surrounding the hair follicles

There is no indication of structural changes such as atrophy, granular disintegration or calcal encrustation of the elastic fibres It is noteworthy that, unlike the connective *collageneous fibres which are met with all* over the graft as well as the wound bed the elastic fibres are present only in the graft and in an absolutely normal distribution

They stop abruptly at the periphery of the graft and are not encountered anywhere in the rest of the wound bed

The demarcation is so sharp that the borders and the shape of the graft can accu rately be followed up by the presence of elastic fibres (fig. 5).

DISCUSSION OF MICROSCOPIC FINDINGS

The above findings are in accordance with those described by Unna,[32] Jores,[33] Katsurada[34] and Hass.[35] We believe that the elastic fibres disappear completely in the skin after traumatic injury or in acute or chronic infections, and are equally absent in *granulation tissue, scars* and *keloids.*

Regeneration, if any, is very slow and takes many months. Mechanical crushing does not seriously harm the elastic fibres but they succumb rapidly in areas of inflammatory response. (Katsurada quoted from Hass.) Unna[32] (1896) points out that granulation tissue loses its elastic fibres before it is converted into scar tissue, and Jores[33] (1900) believes that granulation tissue contains no elastic fibres at all.

The presence of morphologically and structurally normal elastic fibres in the grafts only, and their absolute absence in the rest of the wound bed, is an indication of the viability of our grafts and is in complete agreement with the views of the above authors.

At the periphery, the graft is surrounded and sharply delineated by lymphocytic infiltration and a continuous vascular barrier. The lymphocytic infiltration consists of lymphocytes of the round cell type, diffusely disposed, occasionally conglomerated in formations of a follicle-like character. Between them, there are giant cells of the inflammatory type, macrophages and migrating cells. The vascular elements surrounding the transplants are extremely dilated and engorged.

Around the grafts, the epithel covers a tissue which in general the aspect of granulation tissue. D papillae are absent and so is cytic infiltration which

border of the graft. The connective tissue is young and consists of fine collageneous fibres forming a regularly arranged, loose network. Cellular elements of the connective tissue, wandering cells and giant cells of the inflammatory type are more abundant. More richly developed also are the vascular elements with newly formed capillaries and perivascular lymphocytic infiltration. Hair follicles and pigment cells are not encountered in the wound bed, nor is there any trace of elastic fibres among the collageneous ones, either beneath the epithelium or in the vessel walls.

Microscopically, there is, therefore, a marked difference between the histological structure of the graft and the wound bed, characterized by structural and morphological changes and also apparent in the arrangement of the derma, the epidermis, the connective tissue and the vascular elements. The most striking feature is the presence of elastic fibres in the graft, in contrast to their complete absence in the wound bed. The only elements the structure of which is the same in both areas, are the collageneous fibres.

COMMENT

In the course of the years we tried homografts on the most varying occasions, of varying extent and thickness (Thiersch, pinch, full-thick). Attention was always paid to an identity of the blood groups and in a few cases a method similar to the coagulum-contact thod of Sano[27] (plasma-thrombo-stin method by placental extracts rding to Finkelstein[31]); but in no could a success be recorded. Thus severe burn of a newborn child, ch graft taken from the child's lted down within eight days. described above was the only successful.

We are convinced that here the homotransplantation was a real one for the following reasons

(1) The six transplanted pinch homografts which could very clearly be distinguished from the eleven surrounding autografts showed, from the first up to the fiftieth day after their transplantation, not even the slightest indication of grossly anatomical changes of a nature such as usually precedes the sloughing of a graft. They were in no way to be distinguished from the pinch autografts.

(2) Microscopic verification of the pinch homografts as real transplants was complete. Changes such as usually occur in unsuccessful transplantations were absent.

(3) The fact that, after the first set of homografts had been removed for microscopic examination, another set of pinch homografts taken from the same donor became rapidly destroyed, is, in our opinion, indicative of a local or general immunity in the recipient against homografts from the same source. Such a degree of immunity is probably more marked after the first "take" has been successful.

In this particular case the reasons why the transplantation of pinch homografts was successful are not known to us. According to our experience we can only say that neither a concordance of the blood groups (although, as a matter of fact, it was only determined afterwards in our case) nor the use of the plasma-thromboplastin method which promotes the sticking of the graft without having any bearing on the intricate immune processes taking place in the skin, was the responsible factor.

In his comments on homografting of adult tissues, Willis[36] enumerates the following factors which might in our case, too, have been responsible for the success of the method; he says that "small pieces are better able to survive" so that experiments with pinch grafts offer better prospects of success than those with full thickness grafts. Further, "blood compatibility of donor and recipient have been thought to be of importance." All the other preconditions enumerated by Willis as essential for a successful "taking" of the graft (such as age of patient, site of implantation, vascularization, physiological "demands" of tissue) played no role in our patient.

We regret, therefore, to admit our ignorance as to the reason why in this particular case skin homotransplantation was successful, and we will have to leave it to chance whether or not this will happen again, particularly as owing to lack of funds and facilities we are unable further to pursue this question systematically.

SUMMARY

The successful "take" of six pinch homografts, after a number of failures, is reported. The grafts were taken from a donor of the same blood group as the recipient; the plasma-thromboplastin method was used. Genuine healing was verified by gross examination as well as microscopically. Microscopic examinations were made after fifty days. The possibility of a microscopic verification of a genuine "take" is discussed. No explanation can be offered as to why success was achieved in this particular case.

SOMMAIRE

L'auteur rapporte un succès de six succès d'homogreffes après un certain nombre d'échecs. Les greffes furent prisent sur un doneur du même groupe sanguin qui le récepteur; la méthode thromboplastine fut employée. La vraie guérison fut vérifiée par l'examen oculaire et aussi par l'examen micro-

scopique. L'examen microscopique fut fait le cinquantième jour après l'opération. La possibilité de la vérification microscopique d'une "vraie prise" est discutée. Aucune éxplication n'est avancée pour expliquer pourquoi on obtint un succès dans ce cas particulier.

RESUMEN

El autor da cuenta de seis homoinjertos cutáneos de pequeño tamaño desprovistos de epidermis que "prendieron" con éxito después de un cierto número de fracasos. Los injertos fueron tomados de un donador del mismo grupo sanguíneo que el receptor. La autenticidad de la cicatrización se comprobó tanto macroscópica como microscópicamente. Los análisis microscópicos se llevaron a cabo 50 días después del injerto. Aquí se estudian las posibilidades de la comprobación microscópica de que el injerto "prenda" auténticamente. No se da explicación por el momento al hecho de que se haya obtenido éxito en este caso particular.

Свод

Доложена успешная прививка шести "щиповых" гомотрансплантатов после многих неудач. Трансплантаты были взяты от донора той же кровяной группы, как и больной; был применен плазмотромбопластиновый способ. Действительное залечение было проверено макро- и микроскопически. Микроскопическое исследование было сделано через 50 дней. Обсуждена возможность микроскопической проверки настоящей прививки. Не дано объяснение успеха в данном случае.

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Gas Gangrene

Bacteremia and Carbohydrogenic Toxemia

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WHEN reading through the reports of extensive work carried out in experimental medicine to clarify the question of toxemia in gas gangrene, one gains the impression that progress is far from being satisfactory; even the principal questions are still under discussion. In an interesting symposium on this subject, in the Royal Society of Medicine, London, in December 1945, prominent pathologists have voiced "honest doubts" as to the very existence of a toxemia in gas gangrene.

Research has been mainly directed toward finding a specific Cl. Welchii-*toxin in the blood, which could be tested* and applied to the production of an antitoxin serum. The results have been so unsatisfactory that the above critical summing-up can be well understood. However, when one thinks of the highly toxic aspect of the patients and the way they often die, obviously in toxic collapse, the statement is rather surprising.

I cannot help feeling that the clue to understanding the almost unique pathology of infection and death must be found somewhere else. The failure to detect the presumed specific bacterial toxin can be well understood when approaching the problem from a different angle and considering a fact the importance of which has been greatly underrated, namely, *anaerobic bacteremia.*

Almost nothing can be found in text books and monographs about the frequency and significance of these findings. Sometimes only a few old and rare cases are quoted where gas gangrene of the uterus was followed by *bacteremia and rapid death. In contrast* to this I wish to emphasize that I have good reason to believe that the whole clue for understanding the extraordinary pathology with sometimes surprisingly rapid death, lies in the *bacteremia* and its consequent disruption of the *carbohydrate metabolism.*

Already (in the last war) I have found, in gas gangrene, anaerobics in the circulating blood in about 50 per cent of cases; today with ever-increasing *experience in this matter, I can say that* anaerobics can be cultivated from the circulating blood *in almost 100 per cent* of all cases of gas gangrene with fatal issue. They are found in a *high percentage* of serious cases which recover. They are *frequently* found in the initial stages of even light cases of superficial, epifascial gas gangrene, where the patient recovers, within a few days.

This positive finding of anaerobics in the circulating blood is by no means due *to any special technic which I have* applied. They can be cultivated by the simple method of collecting a few cc. of blood in a test tube with sugar-agar.

When the primary site of infection with gas gangrene is removed and under surgical control, the bacilli disappear quickly from the circulating blood. But even a sporadic invasion of anaerobics into the blood stream (which takes place very easily indeed) may have a great practical bearing which I am afraid has not been sufficiently realized up to now. There are many cases reported in the literature; I have observed three of this kind myself, where careless subcutaneous or intramuscular injection caused gas gangrene infection at the site of the injection.

The opinion generally voiced about such incidents was that obviously the medicine applied or the syringe or needle were not sufficiently sterilized (what "might happen sometimes under war-conditions"). I have always considered this opinion *utterly wrong;* I even once had the opportunity to emphasize this very strongly as an expert witness in a case with legal consequences.

Things may be quite different; I believe the following case gives conclusive evidence of what actually happens:

An infantry man of 20 had been admitted to hospital with a shot wound on the right side of his neck. The small entrance of the missile was found behind the right sternocleido while no exit could be seen. Pharynx and trachea were not injured, there were no subcutaneous emphysema and no suspicion of any deeper local infection. In the night following the admittance, a profuse arterial bleeding took place requiring immediate operation. Exposure showed a shell splinter in the middle of the lumen of the common carotid artery partly checking the bleeding, which otherwise would certainly have been fatal. After closure of both ends with arterial clamps and resection of the damaged and torn part of the arterial wall, end-to-end suture could be performed without great difficulty. The patient was brought into his bed in very good condition and a subcutaneous saline infusion of 500 cc. was given into his right thigh.

Interested at this time in routine bacteriological wound examination. I put the splinter as well as the excised tissue parts into bouillon and sugar-agar Blood culture also was made from the circulating blood (cubital vein). The anaerobic culture from splinter and tissue was positive; Cl. Welchii could be identified. Also the blood culture proved positive with the same anaerobics. The patient was otherwise in good condition but had an elevated temperature and complained about pain at the site of the saline infusion. He developed a rapidly progressing fatal gas gangrene on his right thigh with general septicemia. There was no clinical gas gangrene in the operative wound.

The remaining saline solution could be examined and was found sterile. The whole infusion apparatus had been taken out of the boiling sterilizer before the infusion. So I think the question of a local infection through the infusion can be excluded.

What, therefore, actually *had* happened was this: The bacilli were introduced into the wound with the shell splinter and, probably with some particles of earth, causing a local contamination with anaerobics. After the removal of the splinter and the surgical cleansing, with all tissues having sufficient blood supply, the wound was apparently well under defensive control. But at the site of the saline infusion, where the tissue had been rendered anemic and damaged to some extent, perhaps a slight hematoma had developed, thus causing a favorable culture medium. Here the anaerobics settled down out of the circulating blood.

Since my eyes have been sharpened by this incident, I have observed quite a few similar cases, one of which might be mentioned.

A man with gas gangrene in his right upper arm could be brought well under surgical control. But three days later, he developed a seriously progressing gas gangrene on his right leg where *no* injury was present but only freezing damage of a minor character.

Can there be any doubt about the settling down of anaerobics *out of the circulating blood* in this area, which was covered with undamaged skin?

Can, on the other hand, there be any

doubt about the pathological significance of anaerobic bacteremia even in cases of a mild local infection? Any damaged tissue, where local hypoxemia has been caused (whether frost, over long application of a tourniquet, intramuscular infusion or injection, etc, form the suitable medium) where anaerobics from the circulating blood may settle down and cause a new local gas gangrene infection

Since this observation, I feel very strongly about the rule which I established 30 years ago and which reads *Never give any subcutaneous or intramuscular injection in case of gas gangrene infection* Infusions and injections should be given only intravenously in such cases

The pathology of anaerobic bacteremia works, however, on a quite different scale in cases of *progressive muscular gas gangrene* How quickly such an uncontrolled gas gangrene infection spreads in the muscle is impressive indeed Sometimes only a few hours elapse between the discovery of gas gangrene and the fatal ending The question arises Are there really specific Cl Welchii toxins responsible for this rapid destruction of the body, or is bacteremia with its sequelae to blame, or have both factors a certain share?

The effect of toxins at the site of infection can be clearly observed Hemolysis takes place as well as thrombosis Hemolysis combined with toxic damage to the capillary walls, causes the characteristic coloration of the skin from red to blue and yellowish brown Thrombosis interferes with the blood supply and causes blood stasis, edema and local anoxemia of the muscles Toxins, both hemolytic and thrombotoxins, favor the further rapid spread of the infection and act as real pace makers But the anaerobics do much more than that when they invade the circulating blood The anaerobics which I have observed and cultivated in the majority of cases are wild saccharolytes in the first place They break down the carbohydrate stores of the body, wherever they are, e g the glycogen in the liver and also in the heart muscles They break down to a certain extent also, the sugar in the circulating blood The higher Bilirubin level in the blood up to the visible jaundice frequently observed, is not the sequel of toxic liver damage but a real *gas gangrene of the liver* in the course of anaerobic septicemia Such a liver infection is by no means only a rare end stage of the last hours It can take place as a sequel to an early settling down of anaerobics in the liver in the case of bacteremia already in its early stages

I quote the following case

> An infantry man of 29 was admitted to hospital with a diagnosis first of *catarrhal jaundice,* and, second a gunshot wound through the right calf The patient died from rapidly progressing bacteremia and progressing gas gangrene in his leg At postmortem the liver was ashgrey and foamy

I was able to cultivate bacteria from the liver, heart, etc, in quite a number of necropsies, carried out only five minutes postmortem

Two *toxemic* features of definitely *non*specific origin are evident in serious cases with general infection, anoxemia and acidosis Both are due to the rapid breakdown of carbohydrates in the tissue and in the blood I think the "carbohydrogenic" toxins (carbon dioxide, lactic acid, etc), diffuse through the system in anaerobic septicemia before any possible proteinogenic toxins

I quote the following report, where autopsy was performed *immediately* after death on a man who developed a rapidly progressive gas gangrene in his right gluteal muscles

In the coronary arteries liquid blood was interspersed with a pearl-string-like chain of minute gas bubbles. In the right ventricle there was foamy blood. From the liver and heart muscle, anaerobics could be cultured.

All my observations have given me satisfactory evidence that the process of gaseous transformation is not confined to the locally infected muscles but that it spreads gradually over all glycogen depots, liver, heart muscle, etc., and that it is not a postmortal process, but takes place to a considerable degree while the patient is still alive and is one of the main reasons for his rapid death.

The whole carbohydrate scaffolding of the body is actually set ablaze by the anaerobics, causing rapid breakdown, destruction and dissolution of most of the living tissues up to the last gaseous constituents. Hardly anything in human pathology can be compared with this biological tragedy of a human body, lying actually on a cold pyre and undergoing a destruction, which normally takes place, when he is long under the earth in his coffin! Do we really need in addition some specific or unspecific toxins, histamin-like substances, etc., to explain the pathological features?

The following therapeutic measures, partly directed against the sequel of the living conditions of the anaerobics and partly against those of their saccharolytic activity have been applied as logical according to the preceding:

(1) Drip infusion with *arterialized blood* to fight hypoxemia and also directly aimed against the anaerobics. This drip infusion was carried out by means of a cylinder containing citrated blood together with an oxygen bomb wherefrom a continuous stream of oxygen bubbles was led into the blood. Such an effusion was carried out in some cases for 18 hours and more.

I recommend this method of oxygen-blood transfusion also for other purposes. The effect of such arterialized blood, fully saturated with oxygen, is strikingly better than that of normal venous blood. It is open to discussion whether the effect of this oxygen-saturated blood is only due to the prevalence of oxyhemoglobin or whether some anti-bactericide factors in the leucocytes or the serum are activated or stimulated by the oxygen as well.

The immediate effect of this oxygenization and blood transfusion on the toxic symptoms is indeed dramatic. The patient, previously breathing with the enormous amplitude of coma and being restless and perspiring profusely, calms down, the respiration rate as well as the amplitude drops, cyanosis disappears and perspiring decreases. Observations of such patients are impressive and give, in my opinion, experimental evidence as to the correctness of the assumption that the highly toxic state of the patient is at least *partly* due to *hypoxemia.*

(2) Another experiment as to the importance of toxic acidosis could be made when performing an intravenous infusion of 4 per cent sodium bicarbonate solution. The toxic respiration goes down almost immediately to normal. This second experiment unquestionably confirms the further assumption that acidosis is another factor responsible for the toxic state of the patient. The therapeutic effect was especially impressive in one case which I had considered definitely lost through rapid deterioration of his general state as well as local progression of the infection, in spite of amputation of the infected leg. The condition improved to such an extent that a second operation could be carried out which eventually saved the patient's life.

One has to be very careful in drawing conclusions about therapeutic effects in gas gangrene, infections are so different in their virulence Their appearance is sometimes epidemic like and changes with soil and season, so that any conclusions based on mere statistics are bound to be highly misleading

In one such epidemic one might have a mortality of 95 to 100 per cent, in another only 25 per cent without changing therapeutic methods The impression of one carefully observed case which one considers definitely lost and which is saved contrary to expectation, is sometimes of more value than a comparison of a group of cases from two different periods

My personal experience with antitoxic serum is too limited for drawing any conclusions However, recent reports on antitoxic treatment and, alas, as well with sulfonilamides and penicillin, are extremely discouraging I quote a survey of the observations of H Conway *

His conclusions are that antitoxic gangrene serum has proved of no value, either as a prophylactic or in treatment Nothing could be observed that could be considered an effect of sulfadiazine, either as a prophylactic or a therapeutic His experience with penicillin was as follows 30 patients developed clostridial infection or gangrene while penicillin treatment was being carried out as a prophylactic measure The author considered this observation as convincing evidence that penicillin treatment here is of no prophylactic value at all

Penicillin was therapeutically employed after radical surgery (50,000 units every 3 hours) No effect on the degree of toxicity, on the course of fever or in the appearance of the wound could be observed Considering the pessimistic evaluation of the therapeutic means at our disposal, one must say that there is still a long way to go in finding a satisfactory gas gangrene remedy *Radical surgery* definitely occupies, for the time being, the first place As an additional help in fighting the toxic state of the patient, both measures mentioned above, i e, oxygenated blood against the hypoxemia and infusion of 4 per cent of sodium bicarbonate solution against acidosis, have proved of some value

CONCLUSIONS

It is unlikely that a specific Cl Welchii toxin is to blame for a toxemia in patients suffering from gas gangrene Conditions are fully explained by the bacteremia which exists in practically all cases and by the toxic effect of intermediary and final products out of the broken down carbohydrate stores

Gaseous transformation of the tissues is not confined to the site of primary infection, but can, through bacteremia, become general and can easily explain the rapid and dramatic course of the infection The rather frequent incidence of metastasis in gas gangrene to places of damaged hypoxemic tissue finds also its simple explanation in the existence of bacteremia

The author cites several cases from his personal experience, mostly among war wounded, to substantiate his beliefs regarding the cause of the dramatic course of the condition and the rapid death of these patients

RÉSUME

Il est peu probable qu'une toxine produite parle Cl Welchii soit blâmable pour une toxémie survenue ches des malades souffrant de la gangrène gazeuse Les symptômes sont dûs à une bactérémie présente dans presque tous les cas et aussi à l'absorption de produits toxiques dûs à la décomposition de carbohydrates contenus dans le corps humain

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* *Surgery* 19 p 553 (Apr) 1946

La transformation gazeuse des tissus n'est pas limitée au siège de l'enfection primitive, mais peut vue la bactérémie se généraliser, et explique l'évolution rapide et dramatique de l'infection. La fréquense des métastases de la gangrène gazeuse dans les tissus est due à la bactérémie.

L'auteur cite des cas personnels survenant surtout chez des blessés de l'évolution de la maladie et sur sa mortalité rapide.

RESUMEN

Es improbable que pueda culparse a una toxina específica Cl. Welchii por toxemia en pacientes que sufren de gangrena gaseosa. Las condiciones quedan explicadas totalmente por las bacterias que existen, prácticamente, en todos los casos y por los efectos tóxicos de los productos intermedios y finales de una depauperación de los contenidos de carbohidrato.

La trasformación gaseosa de los tejidos no se confina al lugar de la infección original sino que, por medio de las bacterias se generaliza, haciendo de fácil explicación el rápido y dramático desenvolvimiento de la infección. El más frecuente incidente de la metástasis en la gangrena gaseosa en los lugares de tejido hipodérmico dañado halla también su explicación simple en la existencia de las bacterias.

El autor cita varios casos de experiencia personal, principalmente de heridos de guerra, para apoyar su creencia respecto del proceso de la enfermedad y de la súbita muerte de estos pacientes.

Заключения

Не вполне вероятно, что специфический токсин Cl. Welchii является причиной токсемии больных с газовой гангреной. Обстоятельства вполне об'яснимы бактеремией, которая может быть констатирована почти во всех случаях, и токсическим эффектом промежуточных и конечных продуктов разложения углеводородных запасов.

Газовая трансформация тканей не ограничена первичным очагом инфекции, но может путем бактеремии сделаться общей, что об'ясняет быстрый и драматичный курс болезни. Более не менее частые метастазы газовой гангрены к очагам поврежденной гипоксемической ткани также легко об'ясняется существованием бактеремии.

Для доказательства его идей о причине драматичного курса болезни и быстрой смерти автор приводит несколько случаев из собственного опыта, большей частью между военными раненными.

ELEVENTH ANNUAL ASSEMBLY
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INTERNATIONAL COLLEGE OF SURGEONS

DETROIT, MICHIGAN

Louis J. Gariepy, M.D., General Chairman

Editorials

Surgical Lessons Learned in the Past War

THE past war has advanced the science of Surgery probably fifty years during its relatively short duration All surgeons are now familiar with the accepted importance of blood plasma, penicillin, the sulfanilamides, tyrothricin and streptomycin In the crucible of actual surgical experience with war casualties, it was proven beyond doubt that contaminated wounds should receive a minimal of debridement, that viable nerve, muscle, tendon and bone structures should be preserved, and that these wounds, following a light dusting with sterile sulfanilamide powder, should be loosely packed with sterile vaseline gauze It was axiomatic that no traumatically incurred war wound should be closed, nor attempts be made to heal these by primary intention The tremendous value of the "delayed primary closure" of such wounds five days following their occurrence, or the "delayed secondary closure" following the subsidence of inflammation and infection, constituted one of the chief contributions of the past war to the science of Surgery

Such a program, i e, never immediately closing a traumatic war wound, probably played a major role in preventing anaerobic gas gangrene infections Counter drainage of extensive wounds was religiously practiced The prompt use of split thickness skin grafts over the surfaces of large granulating wounds, where the epithelium had been lost, materially shortened hospitalization and made more beds available for the seriously wounded

This concept of wound treatment resulted in a tremendous saving of man-power, marked shortening of hospitalization and the earliest reutilization of such manpower in former assignments in combat This, in turn, effected a tremendous saving of officers and enlisted men from evacuation to base hospitals in rear echelons with consequent necessary transportation of additional replacement personnel

The phenomenally low incidence of wound tetanus, as exemplified in the European Theater of Operations, has once and for all firmly established the efficacy of prophylactic immunization of all military personnel prior to shipment to a war theater The same is equally true for prophylactic immunization of all personnel against typhus, typhoid and paratyphoid fevers The practical nonexistence of yellow fever in usually endemic areas where combat operations were in progress, again testifies to its great value The use of large quantities of blood plasma in forward combat areas immediately to control wound shock was another major contributing factor to the phenomenally low mortality experienced among wounded American personnel

The value of a simple guillotine amputation of extremities, where indicated, with no attempt to close the stump—despite opinions to the contrary—has been proven the safest and best treatment. The advances in vascular surgery, the conservative treatment of traumatic arterial or arteriovenous aneurysms by modifications of the Matas' endoaneurysmorrhapy obviated the necessity of subsequent amputation in large numbers of the wounded. The utilization of tantalum, either in the form of plates to replace cranial defects, or in the restoration of continuity of destroyed arteries was of major importance.

The prevailing dictum in all combat theaters—first treat the patient's shock and do definite surgical treatment only after the patient's condition has reached an optimum of improvement—was another cardinal factor in the amazingly low mortality rate experienced in the American Army. The strange fact that the American Army alone practiced conservative treatment in the handling of either severe traumatic injuries or extensive fractures of the extremities, resulted in far fewer amputations and lower mortality than in any other Allied army. The value of adequate amounts of blood plasma, of dusting with sulfanilamides, of the simple vaseline gauze protective strips and of pressure dressing for severe burns was reflected in the very low death rate from these serious injuries. Prompt and energetic treatment of traumatic pneumothorax and of sucking wounds of the thoracic cavity, resulted in few deaths from these grave complications.

The insistence of the Surgeon General of the United States Army on conservative traction methods for injuries of the long bones and the utilization of skin traction only or the Kirschner wire for skeleton traction, was proven a wise, life saving policy. The simplest methods of handling injuries to the abdominal viscera and avoidance of all time-consuming procedures was again justified. Aside from neurosurgical operations, the dictum that any surgical procedure, even in base hospitals, that took longer than forty-five minutes, should not be attempted except in the exceptional instance, was a most wise program. Exteriorization of injured segments of the large intestine or terminal ilium saved many who would otherwise have died, if more meticulous elaborate operations had been attempted. The liberal use of sulfanilamide powder in wounds and rigid reservation of penicillin for those patients whose lives were actually in jeopardy proved a major contributing factor in saving many lives, as well as in conserving critically low supplies of this vitally important material.

If one were to list procedures in order of their importance in saving the lives of wounded American personnel, they might be classified as follows: (1) blood plasma to control shock, (2) simplest possible surgical operation to arrest hemorrhage, combat infection and promote drainage, (3) immediate immobilization of all severe traumatic wounds and fractures in extremities, (4) liberal use of sulfanilamide powder, supplemented by penicillin when the individual's life was in jeopardy, (5) the principle of never closing primarily a traumatic war wound until all evidence of infection had subsided, whether it took five days or several months, (6) prompt use of split thickness skin grafts if wounds could not be closed without undue tension, (7) lightly packing open all traumatic wounds with sterile vaseline gauze to make such wounds heal from the bottom out, yet at the same time facilitate drainage of infected or serosanguinous material, (8) conservative, "old fashioned" methods of skin traction or the simplest type of skeletal traction in fractures of the extremities (9) the evacuation of all serious brain, spinal cord and eye injuries to the Zone of the Interior, (10) the principle of transportation plaster casts for either extensive injuries or fractures of the extremities, (11) universal use of tetanus toxoid, typhus, typhoid and paratyphoid immunizations as well as yellow fever and cholera inoculations in those theaters where their use was indicated, (12) prophylactic utilization of atebrine in malarious districts, (13) universal chlorination of all drinking water, (14) the wise policies promulgated by the Surgeon General, the Chief Surgeons of the various Combat Theaters and the counsel of their Surgical Consultants, (15) utilization of young and enthusiastic surgeons, whose heroic efforts directed towards the saving of countless lives has received to date too little praise and recognition by the world at large

Such, in the writer's opinion, were the lessons learned in this past war by those of us fortunate enough to have participated, and which few of us will ever forget It is hoped that the contributions made by the great number of doctors in uniform will be utilized by their colleagues who remained on the home front to care for the tremendous army of defense workers who in turn, helped to make victory possible

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(Continued from page 438)

ing of the vaginal walls, difficulty in the secondary filtration—that the phenomena of cystitis and tenesmus, as well as of proctitis with tenesmus will occur If no errors of technic have been made, these lesions disappear spontaneously within a few weeks

Finally, as the most extravagant complications, ranging from vesico and rectovaginal fistulae to the greater frequency of metastases, are imputed to X ray and radium, I find it superfluous to state what a practice of some thousands of cases has taught us I shall only say that perforations and fistulae are not more frequent in those cases treated by irradiation than in those in which cancer has been allowed to follow its natural course, there will probably be a greater incidence of metastases—since patients, even when not cured, remain alive during a greater period of time—which accounts for the appearance of metastases, in large numbers

Let us hope then, that both patients and physicians will be convinced that this problem of cancer therapy is, fundamentally, a problem which Hippocrates had in mind when he affirmed that through lack of attention great may be caused

Sir William Osler*

MONTAIGNE said, "I have only made a nosegay of culled flowers, and have brought you nothing of my own, but the thread that ties them together." The same could be said of these few remarks of mine, given in tribute to one so far greater than I.

The impression received after reading Harvey Cushing's magnificent "Life of Sir William Osler" is that here was a man of prodigious mental power and accomplishment. Among all his interests, two were dominant and transcendent, medicine and literature. In the first he was known for more than a third of a century to students and the whole medical world, and for the second possibly only in lesser degree. Yet his interest and help in more than forty libraries is known; his medical papers, books and lay lectures are outstanding in their field. At the opening of the new building of the Boston Medical Library in 1891, Osler made this statement: "It is hard for me to speak of the value of libraries in terms which would not seem exaggerated. Books have been my delight these thirty years, and from them I have received incalculable benefits. To study the phenomena of disease without books is to sail an uncharted sea, while to study books without patients is not to go to sea at all. Only a maker of books can appreciate the labors of others at their true value. Those of us who have brought forth fat volumes should offer hecatombs at these shrines of Minerva Medica.

"But when one considers the unending making of books, who does not sigh for the happy days of that thrice happy Sir William Browne whose pocket library sufficed for his life's needs; drawing from a Greek Testament for his divinity, from the aphorisms of Hippocrates his medicine, and from an Elzevir Horace his good sense and vivacity?

"For the general practitioner, a well-used library is one of the few correctives of the premature senility which is apt to overtake him. Self-centered, self-taught, he leads a solitary life, and, unless his everyday experience is controlled by careful reading or by the attrition of a medical society, it soon ceases to be of the slightest value, and becomes a mere accretion of isolated facts, without correlation. It is astonishing with how little reading a doctor can practice medicine, but it is not astonishing how badly he may do it. Not three months ago a physician living within an hour's ride of the Surgeon's Library brought his little girl, aged twelve, to me. The diagnosis of infantile myxoedema required only a half glance. In placid contentment he had been practicing twenty years in 'Sleepy Hollow' and not even when his own flesh and blood was touched did he rouse from an apathy deep as Rip Van Winkle's sleep. He had not been a reader, he said, but he was a practical man with very little time."

Osler had a vast knowledge of medicine; the literature of medicine was one of his chief delights. His keen appetite for books enabled him to see many of the finer things of life, and so added to his many other fine attributes, kindliness, personality and a deeper understanding of his fellow man, together with a facility of expressing himself in a way to make him the outstanding man of his time. Dr. Shattuck in 1919 said: "To no member of its body today does the profession of medicine owe so great a debt, not that humanity is not also deeply in his debt. Jenner or Pasteur has his first mortgage on mankind, his second on men of medicine. With Osler the order is reversed. He has made no profound or fundamental discovery, but no one of our days has, in his life, teaching and example, so radiated, far and near, an inspiration to his fellow physicians. Wide and accurate learning, enthusiasm in the pursuit of truth, a character in which elevation and charm are singularly marked and rarely blended, a personality which wins perforce the love, admiration and respect of all who come within his influence, a kindly eye which sees the good in every man and thus stimulates him to better it, these are the main threads woven into the fabric of his beautiful life. Who that meets him, who that reads his essays and addresses, in particular, does not come forth or rise with renewed strength and hope to the service of his fellow man, a better soldier in the Medical Corps of the Divine Army?

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* Annual Presidential Address, Osler Medical Society, Washington, D. C., also read at Sixth Annual Banquet of Ambulatory Fracture Assn., Chicago, Illinois, October 27, 1945.

A tribute from a mother whose child was a patient of Osler's gives us an insight into the feelings that could be aroused by this great physician. She said: "To have been a patient of Sir William Osler in your youth was to have obtained an almost impossible ideal of what a physician could be. As he passed about, gallant and debonair, with a whimsical wit that left the air sweet and gay, with an epigram here and a paradox there, tickling the ribs of his colleagues, none felt him frivolous; there was a point to his rapier while he played with the button on; the deep sad eyes of his soul watched a little cynically the light humor of his mind. It was not necessary for him to be sensitive to a social atmosphere, because he always made his own atmosphere. In a room full of discordant elements he entered and saw only his patient and only his patient's greatest need, and instantly the atmosphere was charged with kindly vitality, everyone felt that the situation was under control, and all were attention. No circumlocution, no meandering. The moment Sir William gave you was yours. It was hardly ever more than a moment, but there was curiously no abrupt beginning or end to it. With the easy sweep of a great artist's line, beginning in your necessary and ending in your necessity, the precious moment was yours, becoming wholly and entirely a part of the fabric of your life. He made you respect his time, but he also respected yours. If he said, 'I will come at two', and the hands of the clock pointed to ten minutes after, you knew that he could not come. If that rare thing happened—a broken appointment—he never failed to send a few lines of explanation. He safeguarded his patient from all annoyance. To be sure, you could not luxuriate into floating reminiscences in his company, your expansions about your family and friends and temperament were not for him—that the nurse had to bear. I think he was always a little sorry for the nurse. One other thing he safeguarded, and that was your purse. If a conscientious secretary sent a bill, it had to be a very moderate affair.

"With his patients he recognized at once the thing or characteristic that concerned him and them, and for the rest, whatever was uncongenial or un attractive he put from his mind and prevented any expression of it. A pose or an attempt at a serious chatter about unessentials was intolerable to him. But he was as merciful as he was masterful, and from the very poor and the genuinely afflicted he would even have borne being bored.

"Such telling love, such perfect confidence were given him that he could do what he liked without causing offense. Three times in my life I have seen him, when in consultation, smash the attending physician's diagnosis and turn the entire sick-room the other way about; but he left the room with his arm about the corrected physician's neck, and they seemed to be having a delightful time. The reason for this was perfectly evident; every physician felt himself safe in Sir William's hands. He knew that he could by no possibility have a better friend in the profession; that if, with the tip of his finger, Sir William gaily *knocked down his house of cards*, he would see to it that the foundation was left solid; and no one would contribute so many bricks to the new edifice. . . . He was one of those who having great possessions, gave all that he had. For myself, I may say that every moment he gave me shines out, illuminating the long years of my life.

"Subtle in temperament, direct in character, the brilliant mind and soaring spirit were unchallenged, because, under the surface of the gay man of the world, lived the Saint. It is when *a man touches other* people's lives that you know whether he brings life or death or nothing. Where that swift spirit has gone I do not know; but I know that to those he cared for on earth he brought life. They will look back and remember, and will thank God and take courage."

Osler gave an address to the first class of the Nurses Training School at the Johns Hopkins Hospital which is a beautiful thing and gives us an insight into his *fine mind and his* understanding and kindness: "In one of the lost books of Solomon, a touching picture is given of Eve, then an early grandmother, bending over the little Enoch, and showing Mahala how to soothe his sufferings and allay his pains. Woman, 'the link among the days', and so trained in a bitter school, has in successive generations, played the part of Mahala to the little Enoch; of Elaine to the wounded Lancelot. It seems a far cry from the plain of Mesopotamia and the lists of Camelot to the Johns Hopkins Hospital, but the spirit which makes this scene possible is the same, tempered through the ages by the benign influence of Christianity. . . . Here we learn to scan gently our sister woman; judging not, asking no questions, but meting out to all alike a hospitality *worthy of the Hôtel-Dieu*, and deeming ourselves honored in being allowed to act as its dispensers. Here, too, are daily before our eyes the problems which have ever perplexed the human mind; problems not presented in the dead abstract of books but in the living concrete of some poor fellow in his last round, fighting a brave fight, but sadly weighted, and going to his account 'unhousel'd, disappointed, unaneled, no reckoning made'. As we whisper to each other over his bed that the battle is decided and Euthanasia alone remains, have I not heard in reply to that muttered proverb, so often on the lips of the physician, 'the fathers have eaten sour grapes', your answer in clear accents—the comforting words of the prayer of Stephen? . . . Useful your lives shall be, as you will care for those who cannot care for themselves, and, who need about them, in the day of tribulation, gentle hands and tender hearts And happy lives shall be yours, because busy and useful having been initiated into two of the three mysteries of the Great Secret—that happiness lies in the absorption in some vocation which satisfies the soul, that we are here to add what we can to, not to get what we can from, Life, and the third—is still a mystery, which you may or may not learn hereafter "

A lesson we can draw with benefit to ourselves is that here was a man who preached and practised the humanities of medicine, and, as Dr C Jeff Miller has so well expressed it, the most characteristic aspect of American civilization today is the trend toward standardization American Medicine has become infected with the same virus We have standardized our hospitals and our medical schools, and our patients are in all respects the better for it, we have standardized our medical and surgical therapeutics and our patients are in many ways better for it But we are in danger of standardizing ourselves and them and we are the worse for that, for there is a limit which we have about reached It would profit us and not lessen our scientific efficiency to be more personal and more human in our relationships, to regard as something more than cases and symptom complexes the ailing humanity who turn to us for aid For the care of the sick implies more than the use of the knife, the prescription of drugs or the employment of systems of therapeutics There is a relationship between doctor and patient which cannot be charted or diagrammed It awakens pity and sympathy and kindliness on the part of the one and begets faith and hope and trust in the other This is not inconsistent with accurate diagnosis and scientific treatment The modern medical student is turned out on the world excellently versed in all the medical sciences, considerably less versed in the medical arts, and totally unversed in the treatment of patients as anything but "cases" to be handled by rule of thumb Ailing humanity cannot be so handled, body and soul cannot be separated for purposes of treatment They are one and indivisible Mankind's eternal cry is for release, the physician must answer it with something better than a test tube or a faultless technic The cure which really means the care of the sick, the relief of suffering, the salvation of life, these are the high aims of the medical profession

Stephen Paget, kindliest of philosophers, says that practice is science, but science touched with emotion The best physician is he who leaves behind him a saucerful of the milk of human kindness One of the greatest physicians who ever lived, as distinguished for his beautiful courtesy as for his surpassing scientific skill, did not think it belittling to give it in full measure Sir William Osler never left a sick room without leaving renewed hope behind him, it was his kindliness as much as his therapeutics that wrought the benediction of healing His life is a portrait of the perfect combination of scientist and humanist Osler often quoted these lines from Cowper

Knowledge and wisdom, far from being one,
Have oft times no connexion—knowledge dwells
In heads replete with thoughts of other men,
Wisdom in minds attentive to their own
Knowledge is proud that he has learned so much,
Wisdom is humble that he knows no more

Custis Lee Hall,
M D, F A C S, F I C S

August and the hospital much earlier. There are classes in the third, fourth and fifth years. Manifestly, first and second year classes had to be deferred for lack of facilities and equipment.

How can we salvage the medical education set-up we have so conscientiously built and which we have so pitifully lost? Salvaging could be done in diverse ways. But two are simple and submitted herewith.

The first is the proposal to reserve annually even only ten of the six thousand odd residency positions or fellowships or assistantships in the U. S. for postgraduate instruction. These ten positions may be filled by able Filipino physicians in line with the government policy of sending fellows and scholars to pursue advanced studies in this country. These scholars would take care of teaching our students and the profession when they should have returned to the Philippines. The stand taken by one American professor in refusing to give a residency position to a Filipino physician because he believed that his duty first was to train American physicians, is *an outrage, unfair and un-American.* It is not representative of altruistic and friendly America. Knowledge is the patrimony of mankind; it must never be restricted by geography, citizenship or convenience!

The second proposition consists of our appeal throughout the country for donations of books, journals, reprints, equipment, instruments, anything that can be used in medical instruction. We appeal to the Rockefeller Foundation to resume sending their men to the Philippines for research investigation and appointing Filipino scholars to the Foundation to pursue advanced studies in the United States. We appeal to the American Foundation for the Eradication of Leprosy to resume its activities in the Philippines in connection with original and research studies in leprosy. We appeal to the Barbour Scholarship Committee of the University of Michigan to resume appointing deserving Filipino women for advanced studies in the basic and social sciences. We appeal to all institutions, foundations, pharmaceutical entities, to help us once again in our search for truth and knowledge. *This appeal comes from the only country and the only substantial population under the American flag that suffered a prolonged and lengthy invasion in defense of American sovereignty.* We sacrificed everything, including our medical education, to preserve our common ideals of freedom, liberty and democracy.

The International College of Surgeons, as a world-wide teaching school for the advancement of the science and art of surgery in all its branches, stands committed in honor to lend every effort and extend a helping hand to any surgeon or group of surgeons anywhere to facilitate postgraduate education through clinics, conferences, special courses, seminars, personal communications and the like. It believes in the just reward of merit and condemns prejudice and the arbitrary restriction of merit. It upholds broad-minded internationalism and discourages bigoted nationalism. It stands for one, strongly united surgical world. With its commanding influence, it is in a vantage position to help in salvaging medical education in the Philippines.

BENVENUTO R. DIÑO, M.D., F.I.C.S.
Lieut. Colonel, Phil. Army

(Tabular addenda to the above material will be found on page 478.)

ELEVENTH ANNUAL ASSEMBLY

OF THE

UNITED STATES CHAPTER
INTERNATIONAL COLLEGE OF SURGEONS

October 20 through 23 inclusive
1946

BOOK CADILLAC HOTEL STATLER HOTEL
MASONIC TEMPLE
Detroit, Michigan

Among the speakers will be

Mr Hamilton Bailey of London Prof D J Bitschai of Alexandria, Egypt, Dr W Wayne Babcock and Dr Harry Bacon of Philadelphia, Dr Charles Gordon Heyd of New York, Dr Albert A Berg of New York, Prof Dr Alejandro Ceballos of Buenos Aires, Prof Dr David Raul De Sanson of Rio de Janeiro, Prof Dr Francisco Graña of Lima, Peru, Drs Karl Meyer, Raymond W McNealy and J P Greenhill of Chicago, Dr Stewart W Harrington and Dr Wm Carpenter MacCarty of the Mayo Clinic, Prof Dr Arnold Jirasek of Prague, Czechoslovakia Dr Richard Overholt of Brookline, Massachusetts, Dr John H Mulholland of New York University and others (See preliminary program)

SCHEDULE OF EVENTS

Sunday, October 20, 1946

9 00 A M	Registration at the Statler Hotel
9 00 A M	Executive Council Meeting (U S Chapter)
2 00 P M	Board of Regents Meeting (U S Chapter)

Monday, October 21, 1946

8 30 A M	Registration, Masonic Temple
8 30–10 00 A M	Operative Clinics, Detroit Hospitals (see bulletin)
10 00–12 00 Noon	Clinical Pathological Conference and Round Table Discussions

Tuesday, October 22, 1946

8 30 A M	Registration, Masonic Temple Exhibits open
9 30–12 00 Noon	Scientific Program at Masonic Temple
12 00– 1 30 P M	Luncheon and Visit to Exhibits
2 00– 5 00 P M	Scientific Program at Masonic Temple
8 00 P M	*Convocation*, Masonic Temple

Wednesday, October 23, 1946

8 30 A M	Registration Masonic Temple Exhibits open
9 00–12 00 Noon	Scientific Program at Masonic Temple
12 00– 1 30 P M	Luncheon and Visit to Exhibits
2 00– 5 00 P M	Scientific Program at Masonic Temple
8 00 P M	*Assembly Banquet* (informal), Book Cadillac Hotel

Convocat[illegible] Grew
Banquet [illegible] Surgeon General McIntyre and
Dr Fishbein

The Diagnosis of Thyrotoxicosis

ULYSSES GRANT DAILEY, M.D., F.A.C.S., F.I.C.S.*
CHICAGO, ILLINOIS

THIS paper embodies twenty-five years' experience with goiter patients in private and clinic practice, largely among Negroes. It is essentially clinical. Problems of etiology, pathogenesis and pathologic physiology are referred to only in passing.

The terms "thyrotoxicosis," "toxic goiter" and "hyperthyroidism" are here used interchangeably. While they refer to the same symptom complex, they are not exactly synonymous. "Thyrotoxicosis" describes the constitutional state associated with disturbance of thyroid physiology due to some unknown stimulus. Thyrotoxicosis is a broadly inclusive term which is noncommittal as to causation and pathogenesis. "Hyperthyroidism" implies that the symptoms in toxic goiter are due to thyroid overfunction, with overproduction of the normal hormone. Hyperthyroidism connotes a *theory* as to the pathologic physiology at work but does not describe the resulting constitutional state. "Toxic goiter" is the all inclusive term used in the classification proposed by the Committee on Nomenclature of the American Association for Study of Goiter. The possibility of using these terms interchangeably is in keeping with the inexactness of our present knowledge of the subject.

Classification of hyperthyroidism as primary or secondary is warranted by differences in clinical course and response to treatment. Primary hyperthyroidism, variously referred to as exophthalmic goiter,* Graves' disease or Basedow's disease, and less currently as Parry's or Flajani's disease, has the clinical aspects of a specific entity. Secondary (or nonspecific) hyperthyroidism, on the other hand, comprises a heterogeneous group of conditions in which the syndrome of hyperthyroidism may not be the dominant feature. The toxic factor is superimposed on preexisting goiter. In secondary hyperthyroidism, the onset is more insidious than in "exophthalmic" goiter (primary hyperthyroidism). The thyrotoxic syndrome is usually incomplete, activation is less pronounced and ocular signs are inconspicuous or absent. Visceral complications are common, response to iodine is less dramatic and surgical treatment is generally less satisfactory from the standpoint both of cure and of surgical mortality.

In any type of goiter, including cancer of the thyroid, there may at some time in its history be evidence of accompanying toxicity. The tendency of nodular goiter, even when apparently nontoxic, to show low grade or dormant toxicity is not well enough known. In many cases, manifest toxicity develops either after a lapse of time or incident to malnutrition, hardship, emotional shock, disease or the strain of an operation. The evolution of Plummer's adenoma with hyperthyroidism is an example.

The hypothesis that abnormal instead

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* From the Department of Surgery and the Thyroid Service of Provident Hospital, Chicago.

* The use of "exophthalmic goiter" as an inclusive term for primary hyperthyroidism should be discontinued, since exophthalmos is absent in more than half the cases.

of merely increased thyroid secretion is responsible for certain types of the disease, has been for several years a subject of debate. The idea was advanced to explain atypical cases, such as those in which stigmata of both hypothyroidism and hyperthyroidism exist in the same individual. The term "dysthyroidism" was coined to express this concept. Some observers feel that so-called exophthalmic goiter is a dysthyroidism and that toxic adenoma exemplifies pure hyperthyroidism. The theory of dysthyroidism, however, has not served to clarify the etiology of thyrotoxicosis.

The discovery of a thyroid stimulating hormone in the pituitary has provided a definite addition to the knowledge of functional thyroid disease, but it likewise has failed to throw much light on the riddle of thyrotoxicosis.

THE HYPERTHYROID PATIENT †

The syndrome of hyperthyroidism, as exhibited in exophthalmic goiter, is one of the most striking clinical pictures in medicine; when fully developed it can be recognized at a glance. On the other hand, it is sometimes difficult to determine with certainty whether a patient with goiter is or is not thyrotoxic.

The patient with typical exophthalmic goiter is apt to be a young woman, slender, hyperactive and wide-eyed. French writers, with their bent for graphic description, have called the familiar stare *l'oeil dramatique* and *l'oeil tragique.* In the reception room or ward this patient is conspicuously busy, writing, reading or sewing; or if not actually busy, is aimlessly restive. The typical hyperthyroid is a wide awake person, not feeling the desire for sleep until long after the customary hour for retiring. Evidence of hyperactivity is often seen even when the patient is asleep.

It is a striking fact that as a rule these patients are not complainers. When asked how they feel, they usually answer "Fine!" The "nervousness" which appears early in the course of the disease is objective. While many patients with hyperthyroidism are excitable and some are explosively emotional, in my material these have not formed the majority. In spite of the obvious objective nervous features, persons with thyrotoxicosis are among the most reasonable with whom the physician has to deal.

The patient often seeks medical attention on the advice of relatives or friends who have noticed the changed attitude before the patient herself has realized that anything is wrong. Presently, however, the early sense of exhilaration is counterbalanced by an unaccustomed weakness. The patient could "move mountains" until she sets out to do so; then she realizes to her surprise and disappointment that she can scarcely brush away a molehill. Muscular weakness shows itself in numerous ways, but particularly in a tendency of the legs to "cave in at the knees" when the patient steps down, as in descending stairs or stepping off a curb (de Calve's sign). Minor exertion causes fatigue, shortness of breath, quickening of the heart beat and a sensation of pounding in the chest.

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† 'Much discussion has been indulged in as to the existence of a certain type of physical and mental makeup back of the development of hyperthyroidism The now obsolescent term "habitus" covered this hypothetical status Graves' constitution, elaborately detailed by the late Alfred Warthin, was generally accepted but later rejected by the majority of clinicians who have expressed themselves Warthin's description actually was that of the early hyperthyroid patient and not of a hyperthyroid type I used to feel that hyperthyroidism developed only in individuals of more complex mental organization. Later I concluded that it was the early mental stimulation characteristic of the disease after its establishment, that led to this impression Nevertheless it is difficult to escape the belief that there is a constitutional predisposition, since only a special group reacts by becoming thyrotoxic upon the impact of provocative factors which have no such effect upon thousands of others

Incident perhaps to advancing muscular weakness, in many cases a general tremulousness appears. This tends at first to be objective. In one case advice was sought by the husband, who stated that his wife had suddenly begun to have violent tremors incident to marital relations. These proved to be the first manifestation of severe exophthalmic goiter.

Intolerance to heat seems a minor complaint, yet it is an important element in the thyrotoxic syndrome. Often the patient does not think about it until the physician inquires; that she replies that in the coldest weather blankets are a bother.

In spite of a sharp appetite, there is loss of weight. This may occur with startling rapidity; a loss of 30 to 40 per cent within a few weeks is not uncommon.

Constantly overstimulated, the hyperthyroid patient is easily startled or disturbed, even in the midst of her protestations of well-being. The environment in which so many of our patients must live is conducive to frustrations. A certain number develop psychotic complexes which may blur the clinical picture. The diagnostician must become familiar with these if he is to avoid overlooking incompletely developed or atypical cases. Often it is difficult to decide which of the two, the psychosis or the thyrotoxicosis, is the basic element of the case.

From a practical standpoint, there are at least three approaches to the diagnosis of hyperthyroidism, all of them important. The *first* is thorough mastery of the signs and symptoms which make up the syndrome, together with an estimate of their relative weight in diagnosis and their approximate chronologic place in the natural course of the disease. The *second* is thorough familiarity with the various guises in which the disease appears; it is here that most mistakes occur. The *third* approach is through study of the diseases involved in differential diagnosis.

SYNDROME OF THYROTOXICOSIS

The symptoms comprising the syndrome of thyrotoxicosis, roughly in the order of their appearance and diagnostic weight, are as follows (this list is modified from Plummer[3]); (1) mental activation, (2) tachycardia, (3) heart consciousness or palpitation, (4) muscular weakness and fatigue, (5) tremor, (6) "goiter" (this may be the first sign, but its presence is not positively diagnostic and its absence does not rule out thyrotoxic disease), (7) loss of weight in spite of ample intake of food, (8) ocular signs, including exophthalmos, (9) heat intolerance, (10) vasomotor disturbances of the skin including sweating, flushing and dermographism, (11) anorexia, nausea, vomiting, diarrhea, jaundice, (12) changes in pigmentation, (13) pressure symptoms (hoarseness, dysphonia, dyspnea, dysphagia, cough) and (14) laboratory evidence.

1. *Mental Activation.*—Plummer stated that mental stimulation is the earliest manifestation in all types of hyperthyroidism. Study of case histories and observation of many patients during the transition from apparent health to hyperthyroidism have left no doubt in my mind that this statement is correct. Even nonspecific and apathetic forms of the disease, in which the early signs are so easily overlooked, are ushered in by this phenomenon. It is often noticeable to the acute observer before the patient is aware of illness. The clinician who recognizes the disease in its earliest stages may do so with this as the sole presenting symptom. The student can-

not be too strongly impressed with its significance, for its absence in a border line case tends to throw doubt on the diagnosis of toxicity

2 *Tachycardia* —In well developed hyperthyroidism, pulse rates of 120 to 140 or even higher are usual However, a rate as little above normal as 80 or 90, if it is observed under basal conditions, must be considered suggestive of thyroid toxicity until ruled out by clinical and laboratory investigations This slight acceleration may be *the first sign* noticed, since minor degrees of mental stimulation are easily lost on the average observer However, heart block and other types of cardiac arrhythmia may neutralize the value of the pulse rate as a diagnostic sign

It is hardly necessary to call the attention of practicing physicians to the observation that most women *at the first* visit show an increase in the pulse rate This must be taken into account in evaluating tachycardia

3 *Heart Consciousness* —Heart consciousness or palpitation may follow closely the onset of tachycardia More often, however, it appears later in the disease, when all the other signs, including tachycardia, are pronounced An early appearance of palpitation may mean that the patient is of the neurotic type, regardless of the thyrotoxicosis Also, it warrants control examinations to rule out neurocirculatory disorder

4 *Muscular Weakness* —As stated earlier this also is an early sign It is present in thyrotoxicosis of any type, but is particularly noticeable in the specific form Its presence, in conflict with the patient's ambition, brings it into sharp relief in the clinical picture

5 *Tremor* —This is customarily included among the first four or five important signs of hyperthyroidism In no active case is it absent Yet it may present in other conditions, for example alcoholism Parkinson's disease addiction to tobacco In contrast to *the tremor of these conditions, that of* hyperthyroidism is usually fine, requiring elicitation In very bad cases, however, tremor may be the dominant feature, involving the entire voluntary muscular apparatus As a positive sign, its importance is often exaggerated Nevertheless if tremor of the outstretched fingers cannot be observed, a *diagnosis of hyperthyroidism must be* considered doubtful unless other evidence is overwhelming

6 *Goiter* —While some enlargement of the gland is present in nearly all cases of thyrotoxicosis, any large series will contain a number of instances in which *there* is no enlargement that can be *discovered* without systematic *examination Usually the increase in* size is accompanied by a firmer, somewhat rubbery texture of the gland, which to the experienced examiner is highly suggestive and may clinch the diagnosis when better known signs are absent or equivocal In several cases of established hyperthyroidism the most careful palpation revealed no abnormality in size or consistency of the gland

The value of local examination of the thyroid gland is not properly appreciated by many practitioners Inspection, palpation and auscultation should be routine but are especially important when the goiter is not prominent and the diagnosis of toxicity is in the balance Elsewhere I have described my own method[4]

In the case of well developed goiter, roentgenograms, anterior, posterior and lateral, should be taken to determine the presence or absence of (*a*) tracheal deviation and compression, (*b*) calcification in the thyroid body, (*c*) substernal extension and (*d*) enlargem thymus gland. Roentgenograms of the entire chest should be made to rule out intra thoracic goiter, which may be situated as low as the diaphragm. Occasionally a parathyroid tumor may account for an enlargement in the upper mediastinum; in one of our cases the finding of metastatic lesions in the lungs led to establishment of the malignant nature of a nodule in the thyroid gland.

Decalcification of bones as seen in X-ray films is characteristic of longstanding hyperthyroidism. This change may appear fairly early; in several instances it helped to confirm the diagnosis.

7. *Weight Loss.*—Loss of weight when the intake of food is ample is a usual accompaniment of active, untreated hyperthyroidism. A thyrotoxic patient in remission may gain weight, but in the absence of forced feeding and iodization this is exceptional.

8. *Ocular signs.*—Various estimates have been published as to the proportion of patients with hyperthyroidism who have exophthalmos. Although the figures have run as high as 60 to 70 per cent, the percentage in our experience is less than 50. Prominent eyes in persons otherwise normal have often aroused a false suspicion of thyroid disease.

Many patients with well-developed hyperthyroidism, on cursory examination show no conspicuous ocular signs, but practically all will be found on closer scrutiny to have at least one of these. Probably 80 per cent will exhibit widening of the lid spaces; stare (Wernicke's or Dalrymple's sign) and/or lidlag (Von Graefe's sign). A dozen or more eye signs have been described in connection with thyrotoxicosis, but the two mentioned here, together with weakness of convergence (Moebius' sign), are, by all odds, the most constant.

Exophthalmos as part of the picture of thyrotoxicosis is ordinarily bilateral. Whenever unilateral exophthalmos is present, a retro-ocular lesion must first be ruled out.

9. *Intolerance to Heat.*—Hyperthyroid patients always complain when heavy clothing or heavy covering is forced on them in cold weather. If a person suspected of having thyrotoxicosis complains of cold, the diagnosis must be considered doubtful. The sign is therefore practically pathognomonic.

Fever is rare in patients with toxic goiter. Its discovery should be the signal for exhaustive search for hidden foci of infection. Hyperpyrexia is an accompaniment of crisis and is probably associated with hepatotoxemia.

10. *Vasomotor Disturbances of the Skin.*—These consist of warmth, sweating and flushing. A diagnosis is sometimes possible, or is at least suggested, when the patient is seen for the first time and the clinician grasps her hand or takes her pulse. The warm moist feeling of the skin is characteristic. The experienced examiner will distinguish between this and the hot, dry skin, or the hot skin with coarse diaphoresis, of other illnesses accompanied by fever, as well as the cold, clammy skin of the neuropsychiatric patient. Flushing is of diagnostic interest in the case of light-colored skins. It is inconspicuous in dark persons, yet physicians experienced in treating colored people learn to detect it even in deeply pigmented skins.

11. *Anorexia, Nausea, Vomiting, Diarrhea, Jaundice.*—These symptoms are exceptional. Usually they occur late in the course of the hyperthyroidism. There is, however, a type of onset characterized by their appearance, which will be referred to later.

12. *Changes in Pigmentation.*—These

have received little emphasis in textbooks and in the literature, but in my experience, largely with colored people, they are of definite diagnostic interest. A generalized increase in skin pigmentation is the rule. A light skin becomes swarthy, a swarthy skin becomes brown, a brown skin becomes black and a black skin acquires a characteristic denser, sooty blackness. I am confident of an affirmative reply in at least 85 per cent of cases in which, while taking the history, I ask about darkening of the skin. The color tends to return to normal with improvement after treatment. Pigmentation of the eyelids (Jellinck's sign) has been observed occasionally. Several years ago Plummer described a peculiar patchy pigmentation on the median aspect of the arm just above the elbow observed in patients with toxic goiter. We have confirmed this finding in several of our cases.

13 *Pressure Symptoms.*—Vocal cord paralysis without clinical signs is not uncommon in goiter. The thyroid enlargement which is associated with the primary or specific form of hyperthyroidism is ordinarily not massive; consequently gross pressure symptoms, such as hoarseness, dysphonia and dysphagia, while they do occur, are less frequent than in nodular goiter. A slight, wheezing cough from pressure on the recurrent nerve without conspicuous thyroid enlargement may lead the unwary to suspect pulmonary disease.

14 *Laboratory Evidence.*—Estimation of the basal metabolic rate is a necessary part of the management of hyperthyroidism. While the rate closely parallels the clinical course of the disease, certain fallacies and limitations of this test should be borne in mind. It must be emphasized that tests should be made under strictly basal conditions, that technical errors must be accounted for and that several tests should be made before treatment is begun. Since the norm varies roughly from minus 10 to plus 10, the rate considered independently of clinical signs may mean almost nothing. As the clinician's experience increases, he depends less and less on the basal metabolic rate, yet none would advocate that the metabolism machine be discarded. Finally, it should be recalled that other conditions may be associated with elevation of the basal metabolic rate. These include fevers, pregnancy, cardiac decompensation, essential hypertension, the leukemias, pernicious anemia and acromegaly. However, I have never seen a case with a true rate of plus 40 or more which turned out to be other than thyrotoxicosis.

The Goetsch[5] test was employed routinely in our earlier work. In this test, 0.5 cc. of 1:1,000 solution of epinephrine hydrochloride is injected subcutaneously. In a person with hyperthyroidism, there follows a sharp rise in pulse rate and blood pressure. However, a similar reaction occurs in some normal persons. Because of the sensitivity of many hyperthyroid patients to epinephrine, the test must be applied with caution, if at all.

Lymphocytosis and minor degrees of leukopenia are fairly constant in hyperthyroidism but are of little diagnostic value. Since the use of thiouracil has become an accepted treatment of thyrotoxicosis, the value of complete blood counts has greatly increased, because of the necessity of checking possible destruction of granulocytes.

Study of long standing hyperthyroidism should include tests of liver function, but the value of such tests for *diagnosis* is academic.

The blood cholesterol content is usually diminished, but because it often is within normal limits in the presence of minor grades of toxicity, it usually cannot be relied on as a diagnostic aid.

Barr[6] recently recommended tests for creatin in the urine as a help in borderline cases:

> The abnormality in creatin metabolism has been sufficiently constant to justify the use of spontaneous creatinuria and creatin tolerance tests as diagnostic criteria in cases which offer difficulty in differentiation between hyperthyroidism and psychoneurosis. This has been especially useful since not infrequently the creatin defect has been evident when the basal metabolic rate is within normal limits. The tests have also been helpful in studying patients whose symptoms have not been satisfactorily controlled by thyroidectomy. Here again the creatin excretion may be excessive during periods when the basal metabolism rate is in the rather wide limits of normal.

Shorr and Richardson,[7] on the same basis, proposed as a test giving the patient a small quantity of creatin hydrate. The hyperthyroid patient will retain less than the normal person, as evidenced by recovery of creatin in the urine.

MODES OF ONSET

The usual onset has been described. Manifestations of cerebral stimulation are conspicuous. The onset may be gradual and mild, with periods of spontaneous remission, or abrupt and severe, with death within a few months. Stare is present, but it must be repeated that exophthalmos and conspicuous enlargement of the thyroid are not a necessary part of the clinical picture.

Here must be mentioned latent hyperthyroidism. This was observed more often when physicians were less thyroid conscious than they are now. Many so-called latent cases were simply mild cases overlooked. Occasionally toxicity developed when the patient was operated on for another lesion. For example, several years ago a patient was operated on by a colleague for fibroid tumor of the uterus. The operation was easy, but death occurred on the third day with the patient in what was apparently a thyroid crisis. The presence of hyperthyroidism had been unrecognized at the time of the operation and was discovered only incidentally by a consultant just before death. Study of the thyroid gland post mortem proved the cause and nature of death. Since this experience we have been more thyroid conscious and have appreciated the importance of eliminating thyroid disease before undertaking elective surgical treatment of other disease.

There are a number of less frequent types of onset which I shall describe briefly.

1. *Well Developed Exophthalmos and Conspicuous Diffuse Enlargement.*—Occasionally exophthalmos overshadows all the other symptoms. There may be little rise in the metabolic rate. Observation of such cases has led several writers[8] to refer to "exophthalmic goiter with and without hyperthyroidism." The implication, in my opinion, is false. There is no exophthalmic goiter without hyperthyroidism. Exophthalmos and thyroid enlargement may coexist without clinical toxicity, but this is not exophthalmic goiter. Exophthalmos, goiter and clinical thyrotoxicosis not infrequently occur with a normal metabolic rate, as stated. This fact, however, does not justify the concept, "exophthalmos without hyperthyroidism."

The notion has been advanced, particularly by Means,[9] that patients with excessive exophthalmos but with only mild toxicity should not have thyroidectomy performed but should be treated medically with desiccated thyroid and iodine. This small "subspecies" (5 per cent according to Means) is thought to represent the thyrotropic (pituitary) rather than the thyrotoxic (thyroid) influence.

2. *Minimal Objective Evidence of Overstimulation. Predominance of Cardiovascular Abnormalities.*—The many "thyrocardiac" patients, who consult the physician because of "heart trouble," show minimal mental activation and may or may not have obvious goiter. Cardiovascular abnormalities are conspicuous, comprising tachycardia, irregularity of heart action, precordial distress, palpitation, dyspnea and threatened or actual decompensation. The thyroid origin of the complaints may have escaped recognition for weeks or months. It is scarcely necessary to mention that thyroid disease should be ruled out in all heart cases.

Heart disease of thyroid origin is the most hopeful of the various types of cardiovascular disease. The possibility of prior or coincident cardiac disease of other nature must be appreciated, or confusion in diagnosis, treatment and, particularly, prognosis will occur. For example, the patient may have had rheumatic heart disease long before his present complaint appeared. Hypertensive heart disease is another not uncommon complication. The simple expedient of taking the blood pressure routinely while keeping in mind its characteristics in hyperthyroidism will help to reveal whether or not such complications are present. In primary hyperthyroidism, as in aortic insufficiency, the pulse pressure is invariably higher than normal. The systolic pressure is rather high, from 130 to 180, while the diastolic is apt to be from 70 to 40. A reading of about 150/65 is average. When hyperthyroidism has been definitely established and the reading is 160/90 or 190/110 a complicating factor must be present.

3. *Pronounced Neuropsychiatric Manifestations.*—These may appear in the hyperthyroid patient, but when they do they are usually independent of the thyroid disease. The physician has to distinguish between the patient with a functional psychoneurosis and a highly emotional hyperthyroid patient. The latter rarely complains of being "nervous." When a known hyperthyroid complains unduly of "nervousness" it will usually be found that he or she was psychoneurotic to begin with and that the two conditions are coincidental. Rarely the thyrotoxic patient may present a major psychosis. In one instance in our series the two diseases were thought to be coincidental. However, thyroidectomy was followed by apparent cure of the mental disturbance.

4. *Symptoms of Hyperthyroidism During the Menopause.*—It is especially important to clarify the clinical picture when hyperthyroidism appears during the menopause. Manifestations based on the latter should be carefully isolated and treated before the last word is pronounced concerning the thyroid disease.

5. *Gastrointestinal Symptoms.*—The following case report is typical of those in which gastrointestinal symptoms predominate.

Mrs. A. W. C. was admitted to the hospital with generalized abdominal pains, nausea and vomiting. The referral diagnosis was gallbladder disease. The patient had been under treatment for thirty-six hours before the possibility of hyperthyroidism was considered. Once the suspicion arose it was easy to unmask the thyrotoxic state. Then, because of incessant vomiting, iodine was administered by proctoclysis, 60 drops in 2,000 cc. of tepid water. Within twenty-four hours there was complete relief from the gastrointestinal symptoms. Further clinical and laboratory investigation confirmed the diagnosis of thyrotoxicosis and later thyroidectomy resulted in cure.

Patients with obvious el [illegible] are extremely toxic, ar [illegible] dice to the liver may be presumed. The prognosis is ominous. In all very toxic patients, the icteric index should be determined. Recognition of subclinical jaundice by means of this test is useful in prognosis and makes possible the most effective therapy.

Laboratory studies are particularly important in cases of thyrotoxicosis ushered in by gastrointestinal symptoms.

6. *Hyperthyroidism in the Aged, Including "Apathetic Hyperthyroidism" (Lahey[10]).*—There was only one well marked case of this type in our series:

The patient, a colored woman aged 55, who appeared to be older, was sent up from the South. There had been a long, undiagnosed illness, characterized by loss of weight, tremor, heat intolerance, a generalized increase in pigmentation, drowsiness, fever, nitrogen retention, obvious hypovitaminosis and cardiorenal insufficiency. There were no ocular signs. When finally the basal metabolism was measured, high figures were obtained (plus 65, 70 and 65). After preparation, operation was done in three stages. The patient left the hospital improved, but died a year later, presumably of cardiorenal disease.

7. *Clinical Hyperthyroidism with Low Basal Metabolic Rate.*—A therapeutic test with iodine is a practical means of arriving at a correct diagnosis. If the case is truly one of hyperthyroidism, the metabolic rate will fail to minus figures, with a corresponding improvement in clinical symptoms.

DIFFERENTIAL DIAGNOSIS

The differential diagnosis need merely be summarized.

Diabetes mellitus, in common with hyperthyroidism, is associated with loss of weight in spite of a good appetite. Also, many thyrotoxic patients have traces of sugar in the urine. The differential diagnosis is not difficult, however, once the possibility of thyrotoxicosis is considered.

When there are cough, loss of weight, slight fever and sweats, pulmonary tuberculosis may be suggested, particularly in view of the fact that in this disease there may be a slight elevation of the basal metabolic rate due to fever. X-ray examinations combined with tests of the basal metabolic rate and a review of the evidence will render the differential diagnosis clear. Coëxistence of the two diseases is not rare.

Neurocirculatory asthenias and psychoneuroses are often confused with thyrotoxicosis. Not only may the hyperthyroid patient be a highly neurotic person, but hyperthyroidism may be associated with a variety of psychoneurotic manifestations. While the diagnosis is not always easy, it invariably can be established. Heat intolerance, warm moist skin, increased metabolic rate and high pulse pressure, will indicate thyrotoxicosis. Certain patients will require psychiatric consultation, but observation and a careful history should enable the first examiner to decide whether or not thyroid disease is present.

SUMMARY

In a three dimensional consideration of the diagnosis of hyperthyroidism, the following factors may be considered:

1. The signs and symptoms which make up the syndrome, in the usual order of their appearance and diagnostic importance, are, mental activation, tachycardia, heart consciousness or palpitation, muscular weakness and fatigue, tremor, goiter, loss of weight with ample intake of food, ocular signs, heat intolerance, vasomotor disturbances, gastrointestinal symptoms, changes in pigmentation, pressure symptoms and certain laboratory evidence.

(Continued on page 182)

The Detroit Assembly

The Eleventh Annual Assembly of the United States Chapter of the International College of Surgeons will be held this year in Detroit, Michigan, from October 20th to October 23rd inclusive Headquarters will be at the Statler and Book Cadillac Hotels in that city and at the Masonic Temple The Scientific programs and the Convocation will be held in the Masonic Temple, the Assembly Banquet which closes the gathering will be at the Book Cadillac Scientific and Commercial exhibits will be on view at the Masonic Temple

Registration will be held on each day of the Assembly On Sunday, the 20th, those attending may register at the Statler Hotel at 9 00 A M , on Monday, at the Masonic Temple at 8 30 A M and 1 30 P M , on Tuesday and on Wednesday at the Masonic Temple at 8 30 A M

The exhibition booths will be open on Monday afternoon at 1 30 and all day both Tuesday and Wednesday from 8 30 onwards

On the morning of Monday the 21st from 8 30 to 10 00, operative clinics will be held at seventeen Detroit hospitals, at which time opportunity will be afforded to those attending the Assembly to observe modern diagnostic and operative procedures and technics by outstanding surgeons Included will be demonstrations in gastric, thoracic, biliary, intestinal, genito urinary and plastic surgery also in the various specialties such as ophthalmology, oto laryngology and gynecology, together with the modern treatment of burns and fractures and the modern uses of wire in surgery

As one of the great industrial centers of the country Detroit is unusually well equipped with hospital facilities, so that the specialists in their respective fields will be able to command excellent conditions for demonstrating the newest instruments, methods and skills

Following the operative clinics from 10 00 A M till noon, the Clinical Pathological Conference will be held and a Round Table discussion session will be conducted by members of the Faculty of Wayne University Following this, luncheon will be served to the visiting surgeons at the various Detroit Hospitals

During the four Scientific Program sessions of the Assembly, on Tuesday and Wednesday, papers on the widest variety of surgical subjects will be presented by an imposing list of speakers, many from foreign countries Among the visiting foreign surgeons scheduled to participate are the first President of the College, Dr Arnold Jirasek, Head of the Department of Surgery at the University of Praha, Czechoslovakia, President elect, Professor Dr Francisco Graña, under whose able guidance the recent Fifth International Assembly of our College was held in Lima, Peru, Mr Hamilton Bailey, noted surgeon and author of London, Professor Dr Jacob Bitschai, member of the Board of Trustees, and eminent urologist of Alexandria, Egypt, our genial co worker and devoted Vice President, Professor Dr Herman de las Casas, from Caracas, Venezuela, our distinguished colleague and member of the Board of Trustees, Professor Alejandro Ceballos of Buenos Aires, and from Rio de Janeiro, the noted otorhinolaryngologist, Dr Raul de Sanson, and others

For the names of those whose work has been of great importance in their respective fields and who are scheduled to present papers, readers are requested to consult the advance program printed on page 465.

The Convocation of the Assembly on the evening of Tuesday, the 22nd, promises to be the most solemn and brilliant that has ever been held. The membership of the College has nearly doubled in the past year; a very large class of candidates is to be inducted. In addition, the program committee has been most fortunate in being able to obtain, as the featured speaker of the evening, the Hon. Joseph C. Grew, formerly United States Ambassador to Japan, who is sure to have a message both timely and interesting for a group so internationally-minded as our College.

All those who attended last year's Assembly in Washington, D. C., will recall with pleasure the delightful program provided by the committee for the Banquet on the final night of that gathering. Even greater pleasure and relaxation are in the offing for this year's Banquet, which will occur on the evening of Wednesday, the 23rd, at 8:00. Highlighting a carefully-chosen schedule of events will be addresses by three figures of both national and international importance, Admiral Chester W. Nimitz, Surgeon-General Ross T. McIntyre and Dr. Morris Fishbein of the American Medical Association. Other diversions of special interest will also be offered. For the benefit of the ladies who plan to attend this event, the committee calls attention to the fact that dress will be "informal."

The committee in charge of arrangements for the entire Assembly is headed by Dr. Louis J. Gariepy as General Chairman; and includes Dr. C. D. Brooks as Chairman and Regent of the Program Committee with Dr. E. G. Martin as Co-Chairman; Dr. C. W. Husband, Housing Committee; Dr. C. L. Straith, Scientific Exhibit Committee; Dr. E. G. Martin, Publicity and Press Relations Committee; Dr. W. A. Chipman, Registration Committee; Drs. E. F. Purcell and W. J. Cassidy, Convocation Committee; Dr. W. D. Ryan, Banquet and Entertainment Committee; and Dr. W. E. Johnston, Motion Picture Committee.

Mesdames Chas. W. Husband, L. J. Gariepy and C. S. Ratigan are acting as Co-Chairmen of the Woman's Auxiliary Committee, which is planning many delightful outings and other "doings" of interest to all non-medical women who may attend the Assembly. This Committee is concerned to see that the ladies enjoy themselves while their escorts are busy with the Scientific and other sessions of the gathering which they, themselves, may not care to attend.

There will be sightseeing trips to Greenfield Village, the motor plants, Belle Isle, Gross Ile and Grosse Pointe. There will also be ample opportunity for shopping or other expeditions that anyone may care to undertake, thus making the Assembly a delightful autumn vacation for both the surgeon and his family.

From thousands of enquiries received from the United States and Canada, as well as many foreign countries, it appears that this Assembly promises to be a memorable one, not only from the scientific point of view but also from the standpoint of collateral activities. The surgical profession as a whole is most cordially urged to attend.

* * *

Ainhum: Report of a Case

JOSEPH HERSH, M.D., F.I.C.S.
PITTSBURGH, PENNSYLVANIA

SINCE 1881, when Hornaday reported the first case of ainhum in the United States, there have appeared a series of forty-nine cases in the American literature. The disease is most prevalent in negroes, males being affected twice as often as females. The lesion is characterized by a linear narrow strip of hardened skin which progressively embraces the entire circumference of the little toe at the level of the phalangeal metatarsal fold. The distal portion of the toe becomes large, bulbous and flattened on the plantar surface, its attachment being only a thin pedicle, the final result being spontaneous amputation due either to gangrene or trauma.

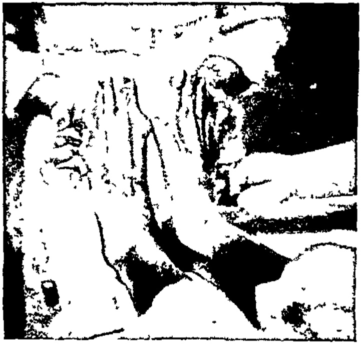
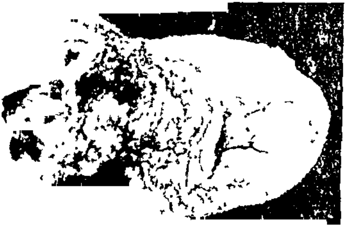


Fig. 1. Preoperative appearance of ainhum (author's case).

The constriction is probably induced by some mechanical or infectious injury. It is predominant in negroes because of their marked fibrogenetic tendency. Mechanical injury can be explained on the basis of pes valgoplanus common in the negro, with associated changes in circulation due to chronic foot strain. Infectious injury must be considered in the common occurrence of dermatophytosis in the space between the fourth and fifth toes.

Treatment is simple amputation, preserving the head of the fifth metatarsal bone to maintain integrity of the tri-



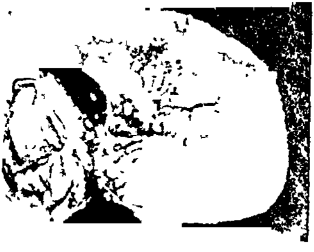


Fig 2. Plantar surface of toes, demonstrating annular fissure (ainhum).

angle of the foot. In the literature, linear incision has been mentioned in the early stages of the process to arrest the constriction. In one case lumbar sympathetic ganglionectomy was successfully carried out. However, the nature of the disease was not apparent at the time of the operation.

CASE REPORT

M. M., a negro male, age 52 years, millworker by trade, was referred to the surgical service at Passavant Hospital on December 4, 1944, by Dr. Benjamin Schulman with an admitting diagnosis of ainhum. The highlights of the history were referable to his fifth toes with a chief complaint of "pain in both little toes". His trouble started as corns about ten years ago with intermittent pain since then. An annular fissure formed around the toes five years ago and has grown progressively deeper.

On physical examination a bilateral hallux valgus was present. Both little toes displayed an annular fissure at the base. The toes hung by a thin pedicle, that on the left side being much thinner than on the right. The distal portion of the toes were bulbous and tender. Kolmer and Kahn reactions were negative.

On December 5, 1944, a simple bilateral amputation of both fifth toes was carried out under subarachnoid anesthesia. The patient was discharged on December 19, free of pain and able to resume his occupation.

(Continued from page 464)

ADDENDA

Enrollment in the College of Medicine, University of the Philippines, from 1924–25 to 1940–41 was, according to the Yearbook of Philippine Statistics, 1940 (pp. 22–23), as follows:

	1st Sem.	*2nd Sem.*
1924–25	187	178
1925–26	231	219
1926–27	283	245
1927–28	311	292
1928–29	360	351
1929–30	374	372
1930–31	411	405
1931–32	420	408
1932–33	436	429
1933–34	464	456
1934–35	493	484
1935–36	546	530
1936–37	623	575
1937–38	602	594
1938–39	615	608
1939–40	560	550
1940–41	534	536
1945–46	198	198

The intern's rotation of service is shown in the following plan:

Departments	*April*	*May*	*June*		*August*	*September*	*October*	*November*	*December*	*January*	*February*	*March*
Medicine	A	A	A	A	B	B	B	B	C	C	C	C
	A	A	A	[illegible]	B	B	B	B	C	C	C	C
Surgery	1-2-4	1-2-4	1 2 3	3	1-2-4	1-2-4	1-2-3	2-3	1-2-4	1-2-4	1-2-3	2-3
Gynecology	B_2	B_3	B_4	B_1	[illegible]	C_3	C_4	C_1	A_2	A_3	A_4	A_1
Obstetrics	C_1	C_2	C_3	C	A_1	A_2	A_3	A_4	B_1	B_2	B_3	B_4
Pediatrics	C_2	C_3	C_4	C_1	A	A_3	A_4	A_1	B_2	B_3	B_4	B_1
Ophthalmology and Otorhinolaryngology	C_3	C_4	C_1	C_2	A	A_4	A_1	A_2	B_3	B_4	B_1	B_2

(Letters designate sections; a figure following, one fourth section)

(Continued on next page)

HOURS OF WORK IN EACH SUBJECT IN THE FIRST FOUR YEARS OF THE COURSE*

	First Year		*Second Year*		*Third Year*		*Fourth Year*		
Subjects	First Semester	Second Semester	First Semester	Second Semester	First Semester	Second Semester	First Semester	Second Semester	*Total*
ANATOMY									
1 Gross Anatomy	176	208							
2 Histology	176								
3 Embryology	80								
4 Neuro Anatomy		96							736
PHYSIOLOGY AND BIOCHEMISTRY									
1 Biochemistry	160								
2 Physiology		288							448
PATHOLOGY AND BACTERIOLOGY									
1 Bacteriology			176						
2 Pathology			224						
3 Clinical Pathology				80					
4 Advanced Pathology								80	560
PHARMACOLOGY									
1 Pharmacology			96	96					
2 Pharmacology					32				224
HYGIENE									
1 Parasitology			64	64					
2 Hygiene					112				
3 Hygiene							32		272
MEDICINE									
1 Physical Diagnosis				48					
2 Medicine					192	144			
3 Medicine							208	160	752
SURGERY									
1 Surgery				160					
2 Surgery					112	160			
3 Surgery							100	148	680
OBSTETRICS									
1 Obstetrics					48	48			
2 Obstetrics							24	24	144
PEDIATRICS									
1 Pediatrics					48	48			
2 Pediatrics							56	72	224
OPHTHALMOLOGY AND OTORHINOLARYNGOLOGY									
1 Ophthalmology and Otorhinolaryngology						48			
2 Ophthalmology and Otorhinolaryngology							48	32	128
GYNECOLOGY									
1 Gynecology						40			
2 Gynecology							44	12	96
LEGAL MEDICINE									
1 Legal Medicine							16	16	32
TOTAL	1,184		1,008		1,032		1,072		4,296

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* Computed on the basis of 16 weeks a semester

(Continued from page 429)

abdomen for metastasis and better preserves the vascularity of the withdrawn bowel. However, the perineal approach is a less severe operation. To prevent secondary perineal hernia, I have found it desirable to liberate the adjacent skin from the buttocks, to slide the flaps medially and so to unite their inner edges to the fibrous tissue over the bony outlet of the pelvis as to form a deep perineal cleft. As the lymphatic spread from the anal region is lateral and about the inner thigh to the medial inguinal lymph nodes, instead of upward into the abdomen, it is desirable not only to carry the incision wide of the growth but also to excise the inguinal lymphatics. Fecal soiling is prevented by maintaining a large opening rather than a stenotic bowel, and by routine use of an enema or quickly acting laxative taken every second to fifth day, dependent upon individual tendencies. A number of patients for whom I have transplanted an abdominal colostomy after a Miles or other operation to the perineum, report that the perineal opening is associated with less soiling, less discharge of offensive gas, and is much easier to care for than the abdominal colostomy. A few patients, after the perineal proctectomy, find the need of artificial aid to prevent soiling unnecessary.

An abdominal colostomy is not used in any of these operations. In no case is the bowel sutured to the skin, as the rhythmic peristaltic contractions tear holes at the points of suture, with secondary leakage and wound infection. Secondary contamination, sloughing, sinuses, fistulae and stenotic openings associated with the older posterior anastomoses, and the Kraske operation, as well as with the Hochenegg or Whitehead type of pull-through operation, render it unnecessary to consider these technics.

PERSONAL EXPERIENCE WITH OPERATIONS ON THE LARGE BOWEL WITHOUT ABDOMINAL COLOSTOMY

Abdominoperineal proctosigmoidectomy with retained sphincters	204
Perineal proctosigmoidectomy	66
Single stage end-to end resection	154
Mikulicz-Paul resection	82
Transplantation or elimination of abdominal colostomy after Miles or other operation	50
TOTAL	556

Age of patients at time of operation	21 to 87 years
Operability, last 300 patients	97 per cent
Liver metastasis	20 per cent
Invasion of adjacent organs	13 per cent

Results 100 recent consecutive patients:

Considered inoperable		2
Hospital deaths		5
Generalized carcinomatosis	1	
Coronary occlusion	1	
Leakage and peritonitis	2	
Diffuse pelvic carcinosis	1	
Operative recovery		93
TOTAL		100

SUMMARY

During recent years single-stage operations for the eradication of intestinal cancer, have increasingly supplanted multiple-stage technics. This has been made possible by the increased number and efficiency of aids such as spinal anesthesia, transfusions of blood, saline, dextrose, amino acids, etc.

The author, a pioneer in the use of the one-stage technic, gives further details of his methods, described earlier, for resection without recourse to colostomy. His experience shows that most patients find much less esthetic distress and discomfort from the results of his technic than from those of such methods as the Mikulicz-Paul or other multiple-stage procedures.

He describes in some detail the various modification of his method dictated by the varying locations of the new growths for which the resections are undertaken. He concludes with a tabulation of results with one hundred patients upon whom he has operated by this method.

(Continued on next page)

SOMMAIRE

Depuis quelques années, les opérations en un temps pour l'eradication des cancers intestinaux supplantent de plus en plus les opérations multiples Ceci a été rendu possible par l'augmentation du nombre et aussi de l'efficacité d'aides—tels que l'anesthésie rachidienne, les transfusions sanguines, saline, dextrosée, acides aminiques, etc

L'auteur un pionnier de la technique en un temps, donne les details de sa méthode de résection sans avoir recours à la colostomie Son expérience l'a convaincu que ses malades souffrent moins de détresse esthetique et moins de malaises qu'avec les méthodes tels que celles de Mickulicz Paul et d'autres methodes à temps multiples L'auteur décrit en detail les différentes modifications de methode basées sur le siège de la tumeur pour laquelle la résection est entreprise Il nous donne les résultats obtenus dans une centaine de malades opérés par sa méthode

RESUMEN

Durante los últimos años las operaciones de una sola vez para la eliminación del cáncer intestinal han sustituído en notable proporción a la técnica de las operaciones sucesivas Esto ha sido posible por la efectividad y el creciente número de los recursos auxiliares, como la anestesia espinal, las transfusiones de sangre y las inyecciones salinas, de glucosa, aminoacidos, etc

El autor, un precursor en el uso de la técnica de una sola operación, ofrece nuevos detalles de los metodos que ya ha descrito anteriormente, de la recesion sin recurrir a la colostomia Sus experiencias demuestran que la mayoría de los pacientes sufren menos molestias y menos efectos antiestéticos con el uso de estos procedimientos que con las técnicas Mikulicz Paul y otras de operaciones múltiples

El autor describe con algunos detalles las variantes de su metodo, de conformidad con la locacion de los nuevos crecimientos que hayan de resecarse. Concluye con una tabulación de los resultados logrados en cien pacientes sometidos a este método operatorio

Свод

В течение последних лет одностажные операции для искоренения кишечного рака замещают более и более часто многостажные методики Это было сделано возможным увеличивающимся числом и эффективностью таких средств, как спинная анестезия, переливание крови, физиологические, дэкстрозные и аминокислотные растворы и т д

Автор, пионер в области применения одностажной техники, дает новые детали своих метод, описанных раньше, для резекции без колостомии Его опыт показывает, что большинство больных испытывают меньше эстетического страдания и неудобств в результате его техники, чем те, кто были оперированы по методам Микулича Paul a или других многостажных процедур

Он описывает довольно подробно модификации своей методы в зависимости от локализации опухоли В заключение он дает таблицу результатов в 100 оперированных больных

(Continued from page 474)

2. The average patient with thyrotoxicosis presents a typical and striking clinical picture. The physician should, however, be familiar with various atypical modes of onset, including the appearance of well developed exophthalmos and conspicuous diffuse enlargement of the gland, with only slight evidence of toxicity; predominance of cardiovascular abnormalities, with little objective evidence of overstimulation; an onset characterized by pronounced gastrointestinal symptoms, and the appearance of clinical signs of hyperthyroidism with a normal basal metabolic rate.

3. Diabetes mellitus, pulmonary tuberculosis, neurocirculatory asthenias and psychoneuroses are the diseases which are most likely to be considered in the differential diagnosis.

SOMMAIRE

Après avoir discuté les définitions de termes "thyrotoxicose," "goître toxique" et "hyperthyroïdisme," l'auteur nous offre une classification des types offrant ce syndrome. Il nous donne une liste dans leur order d'importance des symptômes et une discription détaillée de chacun de ces symptômes. Cela est suivi dé la considération du diagnostic différentiel de certains groupes cliniques: diabète sucré, tuberculose, psychoneurose et aussi différentes complications. Plusieurs cas sont discutés brièvement.

RESUMEN

Al discutir las expresiones corrientemente expleadas de "tirotoxicosis," "bocio tóxico" e hipertiroidismo, el autor menciona los tipos y clasificaciones bajo los cuales se incluye este sindrome.

Luego clasifica, por orden de importancia, los síntomas con una detallada descripción de cada uno de ellos, y, como final, entra a hacer consideraciones sobre el diagnóstico diferencial mencionando al caso la diabetes mellitus, la tuberculosis y las psiconeurosis como factores complicantes o motivos de conflicto. Cita brevemente una serie de casos.

Свод

По обсуждении терминологических определений "тиротоксиза", "тохического зоба" и "гипертироидизма" автор дает список типов и классификаций, включающих этот синдром. Затем, в порядке важности, он перечисляет симптомы, дает подробное описание каждого, и заключает диференциальным диагнозом, включая сахарный диабет, туберкулез и психоневроз, как контрастные или осложняющие факторы. Он кратко описывает несколько случаев.

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(Following are summaries of material which appeared in our May–June, 1946 issue)

SUMMARY

Evaluation of Methods of Study of Peripheral Vascular Circulation

Samuel Lisker, M D

The author has chosen to limit his discussion to advanced organic arterial occlusion with actual or impending gangrene He lists the steps to be taken prior to surgery as (1) history and clinical *examination*, (2) *oscillometry*, (3) histamine test, (4) skin temperature. He estimates the value of each He classifies the patients discussed as those (1) without rest pain, (2) with mild rest pain and (3) with severe rest pain unrelieved by sedatives

In the discussion (by Charles A Hatfield, M D) certain additional points are brought out, while some facets of the material already presented are emphasized

RÉSUMÉ

Evaluation des Methodes D'Etude de La Circulation Vasculaire Peripherique

L'auteur a limite sa discussion à l'occlusion artèrielle avancèe et organique compliquee de gangrene existante ou menaçante Dans ces cas, il fâut avant d'intervenir chirurgicalement avoir recours (1) a l'evolution et à l'examên clinique, (2) à l'oscillomètrie, (3) à l'épreuve de l'histamine, (4) à la temperature cutanée Il discute la valeur de chacun de ces procedes Il classifie ces cas ainsi (1) ceux sans douleur ou repos n'est pas soulagée par les modérée au repos, (3) ceux dont la douleur ou repos n'est pas soulagée par les analgesiques

En discutant la communication Charles A Hatfield a ajoute des notions supplémentaires et a souligné des considérations importantes

Свод

Оценка методов изучения перефирального сосудистого кровообращения.

Автор ограничивается разбором развитой артериальной окклюзии с угрожающей или присутствующей гангреной Он перечисляет следующие необходимые преоперативные шаги 1 история болезни и клиническое исследование, 2 осцилометрика, 3 гистаминовая проба, 4 кожная температура Он оценивает каждый шаг Он делит описанных больных на три класса 1 без боли при отдыхе, 2 небольшая болезненность при отдыхе и 3 с сильной болью при отдыхе, которая не поддается операции

При обсуждении этого вопроса (Доктором Charles A Hatfield) были выяснены некоторые добавочные пункты и подчеркнуты некоторые черты представленного матерьяла

AMINO ACIDS IN SURGERY

Charles S White, M D

RÉSUMÉ

La grande importance des acides aminos chez les malades devant subir une grande opération est discutée Les raisons de déficits dans la balance nitrogène avant et après une opération chirurgicale sont etudièes en detail L'auteur nous donne une methode pour la préparation de la solution intraveineuse qu'il prefere Les reactions observees dans 300 cas operatoires sont rapportees

RESUMEN

Se discute y estudia aquí la importancia de los amino ácidos en los pacientes que van a sufrir una intervención quirúrgica, analizandose en detalle las causas responsables de las deficiencias del equilibrio nitrogenado del organismo en el momento o inmediateme [illegible] p [illegible] de la operación Se dan a

In the latest revision of his **Physical Signs in Clinical Surgery,**[3] **Mr. Hamilton Bailey** has provided for the diagnostician a veritable goldmine of information in most easily accessible form. The material included is strictly practical and condensed to a point where every word is valuable.

The original purpose of the work is adequately set forth in the preface: "There is a growing tendency to rely upon laboratory and other auxiliary reports for a diagnosis. A former chief, . . . was wont to picture the modern graduate of medicine, when summoned to an urgent call, driving up . . . followed by a pantechnicon containing a fully equipped X-ray installation, and a laboratory with a staff of assistants. Without these aids the future doctor would be unable to formulate a diagnosis. The history, and physical methods of examination, must always remain the main channels by which a diagnosis is made."

The illustrations, which are fully half the value as well as the content of the book, are mostly entirely new, because those used in the preceding edition were "destroyed by enemy action." The author states without apology that the physical format of the book suffers from war-time restrictions, though to this reviewer, such shortcomings are not apparent. The only visible defect—a most minor one—is that the black-and-white photographs are somewhat poorer in both detail and quality of reproduction than the really magnificent color plates. These latter give the reader the impression that he has actually *seen* the conditions pictured. Taken with the relative text, it is hard to see how anyone, with even a fundamental knowledge of differential diagnosis as a background, could hesitate in making a decision, after using them for a guide.

Even though no American edition of this work has been published, it would be well worth the while of anyone interested in any form of differential diagnosis which could possibly include the observation of physical signs, to go to whatever pains are necessary to obtain a copy of it for his reference library.

This enlarged and revised edition of **Dr. Albert Kuntz's** outstanding work on **The Autonomic Nervous System**[4] is welcomed by all who are interested in the subject, as well as in neurology and physiology in general.

During the last decade so many advances have taken place in our knowledge of the physiology of the autonomic nervous system and its role in various diseases that the second edition was rapidly becoming less useful as a reference work. Into the third edition have been incorporated the observations and results of recent years of extensive investigative work in the experimental fields, as well as the interpretation of clinical studies and the analysis of therapeutic results. The more fundamental concepts, which older investigations have developed, are brought up to date and elucidated with great clarity, and in an interesting and authoritative manner. The indications for, and the results of, surgical attack upon the sympathetic nervous system are reviewed in the various diseases for which such surgery *is performed.*

The 120 pages of bibliography are not the least valuable portion of the book. This work should be included in the private library of anyone interested in any phase of neurology.

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[3] Demonstrations of Physical Signs in Clinical Surgery. Hamilton Bailey, F.R.C.S. (Eng.), F.I.C.S. Ninth Ed., revised. 352 pp., 492 illus., many in color. John Wright & Sons, Ltd., Bristol, England, 1944. (Excerpts from the text of this work—typical of the form in which it is couched—may be found in several places in the March–April, 1946, issue of this *Journal.*)

[4] *The Autonomic* Nervous System. By Albert Kuntz, Ph.D., M.D., Professor of Micro-Anatomy in St. Louis University School of Medicine. St. Louis, Third edition. Cloth. Pp. 687, with 91 illustrations. Philadelphia: Lea & Febiger; 1945. Price, $8.50.

In the brief foreword to his **Traumatic Deformities and Disabilities of the Upper Extremity,**[5] **Dr Arthur Steindler** says that it is "offered in the form of a case book rather than that of a text" because the contents "is too large, too varied and diversified to be covered by any one man's experience" This is a very accurate estimate of the work

Every conceivable form of defect of the hand arm and shoulder girdle is covered, both in the case reports—of which there are nearly three hundred—and in the interspersed explanatory text Almost every report is accompanied by "before and after" photographs and roentgenograms In addition, the text is still further illuminated by large numbers of diagrams and graphs

Many operations are described in detail, both for repair and correction of physical defects and injuries, and for paralyses and other disabilities originating in the nervous system Some of these are modifications or combinations of standard practices, while others are partially or entirely the author's own One section is devoted to mechanical appliances, another to cinematization

This is essentially a work book, designed to be kept at the busy surgeon's elbow Though of moderate physical size and quite unpretentious in appearance, it is literally packed from cover to cover with thoroughly usable material References are grouped at the end of each section, both author and subject indices are supplied, with a detailed and extensively sub divided table of contents as well The type is of the same size as that used in the main body of this *Journal* but with lines somewhat more widely spaced, making for good appearance and easy reading

This book will definitely be a good investment for any practitioner who has any appreciable number of industrial or other patients of the type subject to the kinds of handicaps indicated by the title

When the master craftsman speaks to the apprentice for his instruction, it behooves the apprentice to listen well and earnestly The **Drs George Crile,** father and son were and are masters in their field, the younger Dr Crile's new handbook, **Hospital Care of the Surgical Patient,**[6] speaks in just this way as a master to an apprentice It is designed for the surgical interne and the young surgeon just starting out in practice Much that is in it, was undoubtedly included in their training courses in medical school, much is also familiar to the nurses and orderlies who work under their orders, yet how often are these fundamental principles and maneuvers stored away in some dusty cubby in the mental "back of beyond," only to turn up missing when most needed To have them all at hand, in a small, handy reference book which could even be slipped into the pocket of a white coat if needed, is one of those minor blessings not too often vouchsafed in this imperfect world

Not the least virtue of this little book is the fact that it gives the most space to commonly encountered difficulties, leaving rarities to the magazines and the more pretentious texts, which always accord them so much attention Logical arrangement and division of material is also a valuable asset, separate sections cover such departments as Physiologic Principles, Surgical Complications, Common Procedures, Preparation and Postoperative Care, and the Relations of the House Officer to the various classes of people, nurses, other surgeons, patients' families, with whom he daily comes in contact An appendix covers the related subject of the Treatment of Wounds

Illustrations, consisting of both photographs and line drawings, as well as charts and graphs, while not too numerous, are good and clear, and cover most of the important procedures and technics

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[5] The Traumatic Deformities and Disabilities of the Upper Extremity Arthur Steindler, M D , F A C S , and John Louis Marxer, M D 515 pp , 1048 illus Charles C Thomas, Springfield Illinois 1946 Price $10 00

[6] Hospital Care of the Surgical Patient A Surgeon's Handbook with an Appendix on the Treatment of Wounds George Crile, Jr M D and Franklin L Shively Jr M D Foreword by Evarts A Graham M D Charles C Thomas Springfield, Illinois, 1946 Price, $3 50

Dr. Victor F. Marshall is an excellent specimen of that vanishing species, the "old-fashioned country doctor." In his autobiography, facetiously entitled, **Doctor! Do Tell!**,[7] he recounts the experiences and observations of more than a half century as mender of bodies and healer of souls in a small, mid-western city. Many such accounts, good, bad and indifferent, have been published through the years; unfortunately Dr. Marshall's book belongs to the last-named classification.

Written in a style that is just a little too informal, it lacks that lustiness of flavor which would give excuse for such informality. The anecdotes recounted—and they comprise the major portion of its contents—while undoubtedly interesting and instructive to those concerned—have been told too literally, in many instances. "Unvarnished truth"—so much emphasized by the racier movie advertisers—actually can be pretty dull most of the time! Dr. Marshall obviously erred in favor of strict truthfulness, never having realized, apparently, that the most successful biographical writing is done with an eye, first to drama and secondly—a bad second—to the strict recounting of facts.

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[7] Doctor! Do Tell! Victor F. Marshall, M.D., F.A.C.S., F.I.C.S. C. C. Nelson Publishing Company, Appleton, Wisconsin; 1945.

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ABSTRACT

ON THE TREATMENT OF PERFORATED GASTRIC AND DUODENAL ULCER

In "Acta Chirurgica Scandinavica" (Vol. XCIII, Fasc. VI, p. 467), appears an article under the above title, by Ivar R. Sandberg, which, in summary, reads as follows:

"A review is given of especially the more recent literature on the subject, with special reference to the primary mortality and late results. During the years 1940–1944, 110 patients (101 men and 9 women) were treated for perforating gastroduodenal ulcer at Karolinska Sjukhuset, 47 of the men at the Garrison Ward. The mean age was 40.8 years. Ten per cent of the patients showed no symptoms of ulcerous disease until the acute onset, and fully one-half had a history of more than one year. Free gas in the abdominal cavity could be demonstrated in 73 per cent of the cases examined by X-rays. One hundred and five patients were operated upon and 5 were not. Of the last-mentioned, 3 were so-called covered perforations. The mortality for the whole material was 10.9 per cent and for those operated upon 9.5 per cent. After deducting 2 cases in which the chief cause of death must be considered to be primary hepatic cancer or hepatic metastases, the corresponding figures will be 9.3 and 7.8 per cent, respectively. In 100 cases excision + suture or suture alone was undertaken, in 1 case in addition an anterior gastro-enterostomy + entero-anastomosis. Primary resection by the Billroth II method was done 3 times and only incision + drainage once. In 68 cases operation was performed within 6 hours of onset and in 28 the interval was 6 to 12 hours, with a mortality of respectively 5.9 per cent and 10.7 per cent.

"The patients have been followed up 2–5 years after the operation. Of 54 possible cases data have been obtained concerning 51, i.e. in 93 per cent of the cases. Four patients died of another disease. Forty per cent of the patients have become free from symptoms as a result of suture alone or excision + suture. Twenty per cent have mild symptoms but are able to work. In 40 per cent the result is not satisfactory. Of the patients in this group, three-fourths have undergone resection secondarily without any deaths.

"The investigation suggests that patients with long-standing ulcer symptoms have less chances of a good late result from conservative operation than those with a short history.

"As a normal method excision + suture, possibly suture alone, is recommended, but under certain conditions a primary resection is to be preferred in selected cases. Chemotherapy locally or by intravenous drip infusion. Careful control of the fluid and salt balance."

NEWS NOTES

The Southern California Guild of the International College of Surgeons held an organizational dinner meeting in the University Club of Los Angeles on March 6, 1946. Dr. Cunha, the Regent, from San Francisco and Dr. Gallant, Alternate Regent, of Los Angeles were guests. In view of the fact that some of the members were planning to go to the International Congress at Lima, Peru, a few days later the decorative motif used was Peruvian, including American and Peruvian flags and flowers in the national colors of Peru.

At the business meeting a nominating committee was named to propose candidates for office. A plea was made for promulgation of the aims of the International College. In connection with the meeting of the A.M.A. scheduled for San Francisco for July 1st to 5th, it was suggested that means be provided of meeting and entertaining I.C.S. members who might be present. A telegram from the National President Dr. Herbert Acuff was read, and the secretary was instructed to reply. Greetings were sent to the Lima Chapter, these to be in the form of an appropriately inscribed scroll. A plea was entered for the National Gastro-enterological Society. An autographed program was sent to one member absent because of an accident.

Russian Relief, Inc., reports for the year 1945, that, out of $32,706,469.95 contributed by the American people to the funds of this organization, the second largest portion, after clothing, was used for medical, chemical and surgical supplies. Such contributions, "signified continuing and ever increasing assistance, continuing and ever firmer friendship for the heroic people of the Soviet Union", 'aid through Russian Relief is friendship in action." It is also interesting to note that the people of Costa Rica, Panama, Brazil, Venezuela and Mexico contributed more than $230,000.00 to this cause, also that of the total millions collected by Russian Relief some $275,000.00 worth of goods were shipped to Poland and $126,000.00 to Czechoslovakia.

Regular Army Careers for Doctors. A recent news release from the Office of the Surgeon General outlines the advantages that are now being offered as an inducement to doctors and surgeons to remain in, or rejoin the Army Medical Corps. General Kirk is most anxious that the high war time standards of this Department shall be maintained into the years of peace. In a statement presented at convocation ceremonies for the 44th General Hospital and the 135th Medical Group at the University of Wisconsin, General Kirk said "we are working on a program that will preserve and foster the kind of cooperation and assistance which your [illegible] group gave us. *We will look to the 'sponsored'* medical units to provide the qualified integrated personnel for the operation of certain types of military hospitals and other medical units."

One of these special inducements is contained in a new Army regulation authorizing graduate training for Army doctors aimed at the "elevation of the general level of professional qualifications of all Medical Corps officers." The "minimum duration and scope covered by the training" which will be in various medical and surgical specialties "will be such as to meet the certification requirements of the specialty board concerned."

Royal College of Surgeons.—A communication from the late Sir D'Arcy Power, K.B.E. of the Royal College of Surgeons of England, London, reads in part as follows:

"The International College of Surgeons has in view for its members a code of ethics, the cultivation and dissemination of the history of medicine and an endeavour to elevate the principles and practice of Surgery in every country. These are very high ideals but it is evident that every effort is being made to carry them into effect."

Authors planning to submit p
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NEW editorial requi

Aid for Needy European Scientists: In a recent issue of *Science* magazine, further details are given regarding the sending of gift packages to scientists in war-devastated countries, referred to in our January-February issue. Though winter is now passed, the need of these people is as great as ever. Gift packages will be more than welcome for a long time to come; "if one has had dealings in the past with an outstanding colleague, one should most positively not be afraid to embarrass him with a gift package. If he does not need it, which is not likely, he will turn all or part of the contents over to one of his associates who may need it more. Packages can also be sent addressed to: The Staff, ... Laboratory, University of ...."

Full details regarding the kind of things to send, and the manner of packaging and shipping, together with details of postal requirements, are to be found in the issue of *Science* for March 22, 1946; or write to the American Association for the Advancement of Science, Lancaster, Pennsylvania.

Prosthetic Progress in Europe: A commission on prosthetic devices, comprised of five Army and civilian experts, was sent to Europe in March of this year, to make a study of technics in amputation surgery, developments in the field of prosthetics and artificial limbs, and the rehabilitation and reconditioning of amputees. Preliminary investigations were made by the members of the commission on recent developments in these fields, especially into the work of German and other foreign scientists as observed by Army medical personnel who have returned from the various war theatres, and into cineplastic surgery. Research into the latter suggests that it may be much more extensively applied in prosthesis in the near future.

Streptomycin Allocation Program: The Army Medical Department, which has received many requests for supplies of streptomycin to be used in treating civilian patients, announced on March 15th, that all inquiries and requests for this drug should thereafter be sent to Dr. Chester S. Keefer, Evans Memorial Hospital, 65 East Newton, Boston, Massachusetts, who has been authorized to handle all civilian requests. This announcement was made with the proviso that such requests shall be made by "a physician giving sufficient technical information to enable him (Dr. Keefer) to decide whether streptomycin is indicated in the treatment of the case." It should also be noted that supplies of this material are still very limited.

Dr. Goodpasture Honored:—It has just been announced that the $5,000.00 Passano Foundation Award for 1946 has been made to Dr. Ernest W. Goodpasture, Professor of Pathology and Dean of the School of Medicine of Vanderbilt University, Nashville, Tennessee. This award, which is made for "the advancement of medical research, especially research that bears promise of clinical application," is made this year to Dr. Goodpasture for his original development of the method for propagation of viruses in pure culture by inoculation of chick embryos and for his outstanding contributions to the advancement of knowledge of cell-parasite relationship in bacterial and virus infection.

Wisconsin Guild Honors Aged Surgeons.—The Wisconsin Guild (District No. 10) of the International College of Surgeons, held a testimonial dinner at the University Club of Milwaukee, on the evening of Wednesday, May 15, 1946, for four Wisconsin surgeons who have reached or passed their eightieth birthdays. They are: Dr. Thomas W. Nuzum, F.A.C.S., of Janesville, 86; Dr. William E. Ground, F.A.C.S., of Superior, 85; Dr. George VanInger Brown, F.A.C.S., F.I.C.S., of Milwaukee, 84; and Dr. John M. Dodd, F.A.C.S., of Ashland, 80. Dr. Custis Lee Hall, F.A.C.S., F.I.C.S., of Washington, D. C., President-elect of the American Chapter of the International College of Surgeons, was the featured speaker of the evening.

Dr. Nuzum, the eldest member of the honored group, was graduated from Rush Medical College (now University of Chicago) in 1885. Dr. Ground has been a member of the Western Surgical Association since 1901. Dr. Brown holds both Dental (1881) and Medical (1895) degrees, and was elected a Diplomate, American Board of Plastic Surgery in 1939 Dr Dodd, when well into middle life, was awarded a Sc D by Northland College (1925)

Dr William J Carson is Regent of the Wisconsin Guild, with Dr Samuel G Higgins serving as President

Nebraska Guild Meeting.—The Nebraska Section of the International College of Surgeons held a meeting at the Cornhusker Hotel, Lincoln, Nebraska, on the evening of April 11, 1946 This Section comprises Fellows and Members from Lincoln, Omaha, Falls City, Columbus, Fremont, Odell and Scottsbluff, Nebraska S J Carnazzo, M D, F A C S, F I C S, of Omaha, is the President

The evening's program, presided over by the Vice President, Dr B A Finkle of Lincoln, included papers by Dr C H Arnold, of Lincoln, who spoke on ' Treatment of German Soldiers by Their Own Officers , Mr M C Smith, Executive Secretary of the Nebraska State Medical Association The Doctor's Answer to Federalized Medicine ', and Dr W P Callahan of Wichita, State Regent, "Practical Considerations in the Diagnosis and Treatment of Gall Bladder Disease "

College Officer Honored—Herbert Acuff, M D, F A C S, F I C S, of Knoxville, Tennessee, has recently been elected a director of the National Board of the American Cancer Society, to represent eleven southern states This position places him in line for membership on the International Board of Cancerology Dr Acuff's colleagues in the International College of Surgeons, as well as his many other friends and admirers join in felicitating him upon these well earned honors

New Jersey Guild Organizes—On Wednesday, April 17, 1946, within the space of five hours, a group of New Jersey Fellows and Members of the International College of Surgeons, met for a scientific session, held an organizational meeting, and enjoyed a fine dinner with entertainment and a social get together The meetings were held in the Academy of Medicine, Lincoln Park, Newark, with the dinner at Essex House About one hundred were present at the scientific session, about one half that number remaining for the balance of the program

The scientific session included papers by Dr Albert Berg, of New York, the new International President of the International College of Surgeons, who spoke on "Problems in Gastric Surgery", Dr Moses Behrend, Philadelphia, ' Gall Bladder—Modern Conception in Its Treatment, illustrated with slides and moving pictures and Dr Harry Bacon, Philadelphia Modern Operations in Recto Sigmoid Surgery also with moving pictures

Dr Watson B Morris of Springfield, New Jersey is Regent of the new Guild and its moving spirit Officers elected at the organizational session included Dr Henry Kessler, an outstanding orthopedic surgeon of Newark, President Dr John Connelly, also of Newark Vice President and Dr Walter Mount of Montclair Secretary Treasurer

At the dinner, colored moving pictures were shown of the Convocation held in Washington, last December, during the Tenth Annual Assembly of the American Chapter of the I C S

Report from Finland—A lengthy communication has just come from Dr Y Seuderling, F I C S, of the Helsinki City Hospital ' Kivela," Finland, giving a graphic picture of postwar conditions in that harried small nation He begins his letter, "As in the other countries of Europe which have been in the war the present situation concerning the everyday life in Finland is in many respects grave", which, judging by the report which follows, is a masterpiece of understatement

Housing is incredibly scarce, due to fire, bombs and the crowding of the population into a smaller area following the ceding of territory to Russia after the "winter war " There is almost no new construction due to shortage of materials Rigid rent ceilings are in force on old dwellings but not on newer ones Basic foods are rationed far more stringently than anything ever known in the United States, unrationed foods are unbelievably dear "Tea, cocoa, dried and canned fruits and spices are now unknown here One kilo of eggs costs about four dollars and a half "

Salaries of the learned professions, never high according to U. S. standards, have not increased, yet living in general is from seven to ten times what it was in 1939–40. Professional men and their patients do get some concessions however. A physician gets 750 to 1,000 grams of soap every second month over the regular ration of one-quarter kilo every three months. Diabetics get extra butter and meat, but no sugar at all. Smokers get only half as much sugar as non-smokers, tobacco being exchangeable for food.

Clothing is so scarce and poor that it makes American preoccupation with such items as nylon stockings seem distinctly puerile. Even umbrellas are rationed. Leather shoes are for out-door workers only. Women get two pairs of stockings a year. "Curtains, bed-linen and towels are now mostly of paper and even such pieces are difficult to get."

Transportation, even for essential needs, is hopelessly inadequate, and like all other necessities, is strictly rationed. Busses and cars use "wood or wood-coal as fuel, benzine (gas) is given only to ambulances and fire-brigades. . . . The wood and wood-coal slowly poisons the chauffeurs . . . about 20,000 suffer of carbon monoxide poisoning."

"The distribution and production are governed by a special ministry of supplies; the work of this ministry is very difficult . . . leading men try to make the life of people easier; of course their work has met with many complaints; it will always be that people are dissatisfied. But we have to thank the men in the ministry for the comparatively good order of all things."

"In the field of public health the question of tuberculosis is the most important. . . . Tuberculosis mortality showed a diminishing tendency from about 1930," the time when a number of large sanitoria were completed. Now the rate has risen again to 16:10,000 as compared with 6:10,000 in Norway and Sweden and 3:10,000 in Denmark. The reasons are not far to seek; malnutrition, over-crowding, lack of segregation of the sick, increased virulence of the disease itself. Even in the army there has been a great increase, due to excess of carbohydrates in the diet, with little fat or proteins, causing lessening immunity.

The same causes make preventive measures extremely difficult to carry out. Much has been done, but beds are lacking, especially in the farthest northern district, where the only hospital was destroyed by the Germans.

"Our leading medical men are very busy. They have to face many problems arising from crowding of people in a smaller country, but so far there have been no serious epidemics.

"The erection of the new university clinics had to be postponed, only the new and modern clinic for children will be opened next month. In the second city of Finland, Turku, in Swedish Åbo, is now a new faculty of medicine going and this circumstance will be of great importance in the future." Turku has a university founded in 1640, and a cathedral which had its 700th anniversary in 1929.

During the war, Finland considered herself fortunate that her next-door neighbor, Sweden, was at peace, and received much help of many sorts from that country. Especially valuable was the care given in Swedish homes to Finnish children to the number of more than 50,000. Some were also sent to Norway and to Denmark. Two-thirds of these were sick and undernourished. Invalids and convalescents and the wounded were also cared for in Sweden.

In conclusion, Dr. Seuderling speaks glowingly of the work of the Red Cross and UNRRA and of "the Quakers, Lutherans and other organizations," of the help and supplies received from England and other countries of Europe, and especially of the recent visit of Herbert Hoover. "Mr. Hoover is a very popular person here; already in 1938 he was elected *doctor honoris causa* by the University of Helsinki and since this time his popularity has greatly increased."

The last paragraph of Dr. Seuderling's letter reads, "From the above mentioned it will be understood that the people of Finland after two lost wars have many and grave problems to face. It will take many years to reach a better standard of living, but the government and the people itself will do everything to their utmost endurance. *We are hard up but not downhearted.*" (Italics ours.) "We will help ourselves, thus others will help us We are [illegible] from other countries [illegible] U S A"

Temple University Medical School and Hospital of Philadelphia and the **Samuel S Fels Funds Medical Research Laboratory** have recently announced the consolidation into a single unit for research in gastroenterology and internal medicine [illegible] organization will henceforth be known as the Fels Research Institute of Temple University School of Medicine and will be located in the medical school laboratory building at Broad and Ontario Streets, Philadelphia The Samuel S Fels Fund will furnish laboratory equipment and finance staff salaries and operating expenses The management committee will include equal numbers of appointees from each of the cooperating groups Dr Harry Shay, who has been in charge since the establishment of the Fels Laboratory in 1934, will continue as director of the new organization

The National Gastroenterological Association this year resumed its Annual Scientific Sessions with a three day Convention in New York City, June 19th to 21st, 1946 The program included symposia and individual papers by prominent members of the profession from all parts of the country, also two round table conferences on "Parasitology and Tropical Medicine from a Military and Civilian Standpoint" and "Socialized Medicine" Included among those presenting papers were Dr Harry Bacon, F I C S, of Philadelphia, and Dr Max Thorek, F I C S, of Chicago

The National Gastroenterological Association has offices at 1819 Broadway, New York City 23

Penicillin Madison, Wisconsin, March 26—Research workers at the University of Wisconsin have developed a new strain of mold which opens the possibility of doubling the nation's supply of penicillin, medicine's newest weapon in the battle against infection

The feat was accomplished by two botanists who, working with funds provided by the Wisconsin Alumni Research Foundation, exposed the spores of [illegible] ultra [illegible] incom[illegible] [illegible] in the [illegible] changes [illegible] bringing

[illegible] Q176 has not [illegible] supplied [illegible] manufacturers in this [illegible] and other [illegible] in their [illegible]

[illegible] special importance in view of [illegible] penicillin has increased [illegible] production built up [illegible] American scientists and [illegible] of the acute shortage, it [illegible] returned to an allocation basis by the government

American production in December 1945 for instance was 700 billion units or something over 1,000 pounds of the powdered sodium form of the pure chemical but it was still short of demand for human use in this country by at least 100 billion units And, meanwhile, demand is rising rapidly for veterinary use in the United States, while the need of the rest of the world is just beginning to manifest itself Wisconsin's Q176 is considered to be a major step forward in bringing supply into line with the increasing need

The story behind the development has been one of successive gambles, in which luck played almost as important a role as scientific skill

The original British workers in 1940 were getting about two units of penicillin from every cubic centimeter of the broth in which the mold is cultured When it was brought to this country, efforts at the Northern Regional Research Laboratory in Peoria, Illinois, a Federal institution, raised the production figure to about fifty units by August, 1942

About that time a stock laboratory culture known as NRRL 832 was found which made it possible to grow the mold in large aerated tanks instead of on the surface of shallow flasks With that strain and with the surface strains the United States went into major production in 21 plants Yields slowly increased to about 100 units, while an organized effort to find new strains was begun

The next step was the discovery—on the stem of a spoiled melon contributed by a Peoria housewife to the NRRL—of a mold known as Penicillium chrysogenum, a first cousin of the original British strain of Penicillium notatum Early tests of this culture which became known as NRRL 1951, jumped production still further and with further refinement of a natural variant, selected by Kenneth Draper of the NRRL, and known as NRRL 1951 B25, production in one typical Wisconsin test series rose to an average of 169 units, with a high of 245

Meanwhile under the Office of Production Research and Development efforts were begun in several laboratories to develop other varieties by artificial means, such as by X rays, chemicals or ultra violet rays These techniques were familiar to scientists as they had been used, especially by geneticists, for more than a decade to produce variations of flowers, insects fungi, etc, in the study of heredity

The first significant break came from Dr [illegible] Demerec, director of the department of [illegible]

Carnegie Institution, Cold Spring Harbor, New York. With X-ray, he developed a group of promising spore variants which he sent to the University of Minnesota for preliminary testing. There a dozen or more hopeful ones were sieved out and sent to William C. Frazier, of the agricultural bacteriology department at the University of Wisconsin.

Flask tests made by Miss Elizabeth McCoy of that department indicated surprising possibilities for one culture, known as X-1612.

Then X-1612 was sent along to W. H. Peterson and Marvin J. Johnson of the biochemistry department, who carried out tests in an 80-gallon pilot plant type of tank.

The tank test, which had produced 98 units from NRRL-832 and 168 units from NRRL-1951-B25, produced 369 units, with a high of 558, from X-1612.

The increase was so astonishing that cultures of the new strain were at once made available to all penicillin manufacturers and for more than a year it has been the basis of much of the production in the United States.

Meanwhile Myron P. Backus and John F. Stauffer of the botany department, who had been for some time studying fundamentals of mutation phenomena in penicillin-producing fungi, obtained spores of X-1612. They had originally worked with federal money, but when that ran out had obtained further financing from the Wisconsin Alumni Research Foundation.

Using a powerful binocular microscope and an extremely fine needle, they picked out at random two spores of X-1612, called them P and Q and from them started two lines of progeny, which were cultured carefully to avoid contamination. They then exposed the millions of second generation spores to ultra-violet light.

The u.v. wave length of 2650 Angstrom units, Stauffer explained, is at once highly effective in producing variants and highly deadly, so that an hour's exposure of 10 cubic centimeter suspensions, each containing 2,000,000 to 4,000,000 spores, killed all but a few of the spores.

It was from among some 500 hardy survivors of the two original spores, each series still designated as P or Q, that the test cultures were made. Nothing of great importance appeared until Q176 was reached in the screening test, where the yield from this strain was markedly higher than that from the parent strain X-1612 used as control. The results were measured in turn by the departments of agricultural bacteriology and of biochemistry.

Prof. Johnson's tank-test charts indicated an average production for Q176 of 761 units, with a high of 904, compared to the 369 average established by X-1612.

By blind chance, as Prof. Backus pointed out, a lethal ultra-violet ray had altered a microscopic bit of living matter—without killing it—in such fashion that the genes controlling its adult output of penicillin had been doubled in capacity. By comparison, a similar series of experiments in California ran up more than 60,000 tests without producing results even approaching those of Wisconsin's lucky few hundreds.

The hunt is still on, in the hope of finding a still more efficient penicillin-producer, despite the possibility that chemical synthesis of penicillin might render the world free of dependence on natural production.

Prof. Peterson said that, while the yield of nearly 1,000 units is remarkable in comparison with previous yields, there is no reason to doubt that a strain could not be found to produce two or even five times as much. The 1,000 units, he said, represent probably less than 1 per cent of all the metabolic products of the mold, yet other molds are known to produce compounds as complex as penicillin in quantities equal to 5 or 10 per cent.

Among the manufacturers now using Q176 are: E. R. Squibb & Sons, New York; Merck & Company, Rahway, N. J.; Abbott Laboratories, North Chicago, Ill.; American Home Products Corporation, New York; Hoffman-LaRoche, Inc., Nutley, N. J.; Charles Pfizer & Company, Brooklyn, N. Y., and Eli Lilly & Company, Indianapolis.

HOTEL RESERVATIONS FOR DETROIT ASSEMBLY

Hotel reservations for the Detroit Assembly, must be made promptly. The number of reservations already requested is approaching the thousand mark. Communications regarding reservations should be sent directly to Dr. Charles W. Husband, 3810 Northwestern Avenue, or Dr. Louis J. Gariepy, 16401 Grand River Avenue, both of Detroit.

Sección en Español

Tecnica Precisa de Anestesia Local en las Rinoplastias

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EJECUTAR una intervencion nasal sin ocasionar al enfermo ningun dolor es un hecho perfectamente realizable. El cirujano dispone actualmente de un riquísimo material terapéutico que puede emplear con exito a tal fin.

Nosotros nos hemos ocupado seriamente del asunto. Al efecto, concluimos por reglar una técnica, que pusimos ya en práctica desde hace varios años, mediante la cual conseguimos una anestesia inobjetable, sin causar al paciente sufrimiento de ninguna naturaleza.

En lo que respecta a su exposición, dividimos la tecnica de referencia, en tres tiempos. A saber:

1º Sedación preanestésica.
2º Anestesia de la mucosa nasal.
3º Anestesia interna infiltrativa.

1º *Sedacion preanestésica.*—En unos casos iniciamos la sedación durante la víspera del acto operatorio, por la noche, mientras que en otros comenzamos una hora antes de iniciar el mismo acto. Procedemos en forma distinta a objeto de adaptarnos a la diferente réplica del paciente. Hay personas sumamente impresionables que pierden su dominio habitual a la sola idea de una intervención quirúrgica, cayendo en un estado de excitación creciente, que culmina con una crisis nerviosa en el instante de la prueba. Su alteración suele ser tan honda, a menudo, que llega a dificultar la labor del cirujano. Para esta clase de personas conviene iniciar, la noche anterior, la anestesia sedativa preliminar. De este modo el enfermo se presenta tranquilo a la sala de operaciones, sin ningun temor, con cierto indice de resistencia a la anestesia de fondo. La sedación previa, asimismo, ofrece otra ventaja, a causa de que, al disminuir el ritmo del metabolismo basal, prolonga mas la accion de la novocaina.

De la sedacion preanestésica, a la narcosis, como es sabido, existe un solo paso, cosa que debe evitarse cuando se efectua una intervención de la nariz con anestesia local. Un enfermo dormido o inconsciente, por supuesto, no está en condiciones de prestarnos la menor ayuda durante el acto realizando movimientos voluntarios al ser requerida su colaboración, pudiendo, por el contrario, obstaculizar la prueba, verificando movimientos involuntarios. Por tal motivo, en ningún caso debemos excedernos de las dosis terapéuticas.

¿Qué substancias empleamos para obtener la sedación del enfermo? Comúnmente utilizamos la morfina o los barbitúricos, tales como el amytal sódico, el nembutal y el seconal.

La morfina, bajo su forma de clorhidrato, la administramos en inyecciones de un centigramo, aplicándola una hora antes de la operación. La usamos en muy pocas oportunidades. Preferimos usar siempre aquellas substancias, cuyo suministro se realiza por vía bucal, merced a que las inyecciones predisponen desfavorablemente al enfermo.

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Cuando prescribimos seconal o nembutal, empleamos cápsulas de diez centigramos, y cuando prescribimos amytal sódico utilizamos cápsulas de veinte. El contenido de ambas substancias, al desintegrarse, como se sabe, es absorbido por la mucosa gastrointestinal.

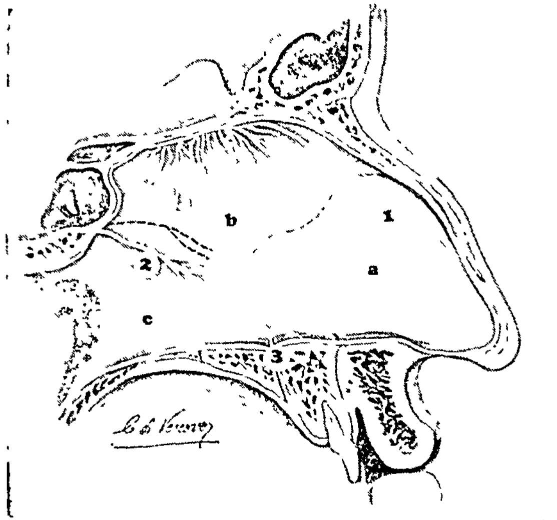

Fig. 1. Pared interna de la fosa nasal. A través de la mucosa se dejan ver los distintos elementos del tabique. (a) Cartílago cuadrangular; (b) lámina perpendicular del etmoides; (c) vómer. Además, se observan: (1) nervio nasal interno; (2) nervio esfenopalatino; (3) anastómosis con el nervio palatino anterior. La parte más clara del tabique nos reproduce el lugar donde debe aplicarse la lámina de algodón con el líquido anestésico.

Según los casos, y a fin de que el paciente se tranquilice y pueda conciliar el sueño, conviene dispensarle una o dos cápsulas de diez o veinte centigramos por la noche. Una hora antes de comenzar la intervención, según el medicamento que se emplee, se le administra una o dos cápsulas más con idéntico contenido. Si se desea actuar con mayor rapidez, se suspende, en poca cantidad de agua, el polvo de una o dos cápsulas y se le administra al enfermo media hora antes de dar principio a la intervención. El sabor fuertemente amargo del producto, dificulta a veces su ingestión. Nuestra experiencia nos dice que el mejor barbitúrico es el seconal. Nunca tuvimos con él excitaciones ulteriores. Su acción es lenta, pero mucho más duradera. Le siguen en orden de méritos, siempre según nuestra experiencia personal, el embutal y el amytal sódico.

2°. *Anestesia endonasal.* — No debe reducirse ella solamente a la mucosa que recubre el tabique. Es menester, también, anestesiar la mucosa que envuelve los cornetes. Nosotros obramos de este modo, porque, en su defecto, se le produce dolor al enfermo durante las siguientes maniobras; (a) al introducir el espéculo de Killian en los preliminares de la intervención; (b) al hacer lo propio con alguna gasa, tanto al principio como al final, si es necesario limpiar interiormente las secreciones o sacar algún coágulo de la fosa nasal; (c) al pretender contener alguna hemorragia copiosa o moderada; (d) al ejecutar operaciones internas a fin de modificar o determinar la posición de

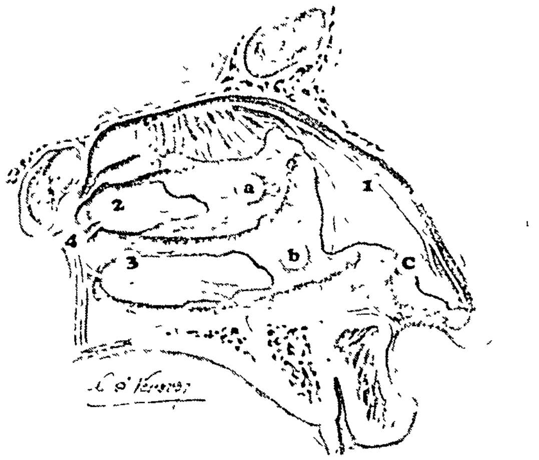

Fig. 2. Pared externa de la fosa nasal. Con a y b cornetes. Aquí la mucosa en su parte posterior ha sido resecada para dejar ver los filetes nerviosos. C, cara mucosa interna de la pared externa, formada por los cartílagos alar, triangular, apófisis montante del maxilar y hueso propio de la nariz. (1) Nervio nasal externo; (2) nervio esfenopalatino externo; (3) nervio nasal posterior; (4) ganglio esfenopalatino de Meckel.

los diversos elementos anatómicos, (e) al terminar, cuando se dejan los tapones Simpson, los cuales se ponen en contacto con la mucosa del tabique y con la similar de los cornetes

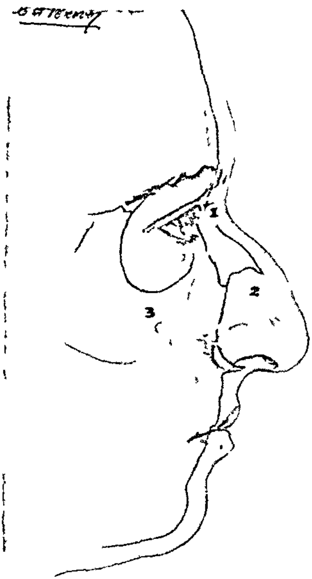

Fig 3 (1) Nervio nasal externo, (2) nervio nasolobular que viene del interior de la cavidad nasal y pasa entre el borde inferior del hueso propio y el borde posterior del cartílago triangular, llegando hasta el ala y lóbulo nasal (3) ramilletes del nervio infraorbitario que se distribuyen por el ala y el vestíbulo nasal

Si la anestesia interna no se efectúa debidamente, el operado sufre, aunque la anestesia externa se haya realizado de manera perfecta Para llevar a cabo correctamente la anestesia del apéndice nasal se requiere, claro está, el conocimiento cabal de la anatomía del órgano, y muy particularmente de su inervación, tanto interna como externa

INERVACIÓN [illegible]

La nariz, en su p[illegible] inervada por tre[illegible] interno, el esfenop[illegible] posterior (figs 1 y [illegible]

(a) *Nervio na*[illegible] la órbita el nervio [illegible] dos ramas el nasal ext[illegible] se interno Este últ[illegible] la lámina cribosa del etm[illegible] la cavidad nasal All[illegible] a su vez, en una rama interna (fig 1 N° 1) que inerva la parte anterior de la mucosa del tabique y una rama externa (fig 2, N° 1) que hace lo mismo con la cara interna de la pared externa de la fosa nasal en su parte anterior Este ramo, finalmente, sale al exterior a través de un espacio entre los huesos propios y el cartílago triangular, llamándose desde entonces nasolobular (fig 3, N° 2)

(b) *Nervio esfenopalatino* — Rama del ganglio Meckel Se divide en varios ramos de los que importa conocer el esfenopalatino interno y el esfenopalatino externo El esfenopalatino externo (fig 2, N° 2) inerva la mucosa de los cornetes superior y medio llegando hacia atrás hasta el orificio tubario El esfenopalatino interno (fig 1, N° 2) pasa por la cara anterior del cuerpo del esfenoides, llega al tabique, cruzándolo diagonalmente Al pasar por el conducto palatino anterior al paladar, se anastomosa con el palatino anterior (fig 1, N° 3) Este nervio preside, en gran parte, la sensibilidad del tabique

(c) *Nervio nasal posterior* — Ramo del palatino anterior (fig 2, N° 3) Se distribuye por la mucosa del cornete inferior

INERVACIÓN EXTERNA

La inervación externa de la nariz está dada también por tres nervios el nasal externo, el nasolobular y el infraorbitario.

(a) Nervio nasal externo.—Ramo del nasal tributario del oftálmico (fig. 3, Nº. 1). Preside la sensibilidad de la raíz del apéndice hasta el borde inferior de los huesos propios.

(b) Nasolobular.—Viene de la parte interna de la nariz (fig. 3, Nº. 2). Es el ramo terminal del filete externo del nasal interno. Sale de la nariz entre el borde posterior del cartílago triangular y el borde inferior del hueso propio, inervando parte del dorso y del lóbulo nasal.

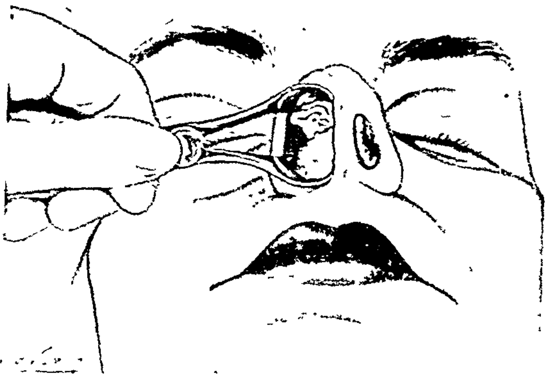

Fig. 4. En la fosa nasal izquierda se ve la parte anterior de la lámina de algodón que está aplicada contra el tabique. En el lado derecho, esta lámina ha sido llevada hacia arriba. En el espacio dejado por la misma, se ha colocado otro fragmento de algodón que se apoya contra el tabique y el suelo nasal. El separador de Killian facilita la maniobra.

(c) Ramos medianos del infraorbitario.—Se abren en forma de abanico y contornean la nariz desde el ala hasta el reborde y vestíbulo nasal (fig. 3, Nº. 3). Sensibilizan también las partes laterales.

ANESTESIA ENDONASAL

La anestesia endonasal se puede lograr mediante varios procedimientos.

1º. Inyección.
2º. Embrocación.
3º. Imbibición.
4º. Pulverización.

1º. *Inyección.*—La anestesia de la mucosa nasal se obtiene mediante, inyecciones de clorhidrato de novocaína al 1 por ciento, adicionándole solución de clorhidrato de adrenalina al 1 por ciento, una gota por cada 10 c.c. Esta forma de anestesia sólo debe ponerse en práctica cuando se quiere efectuar una resección submucosa del tabique con fines correctores.

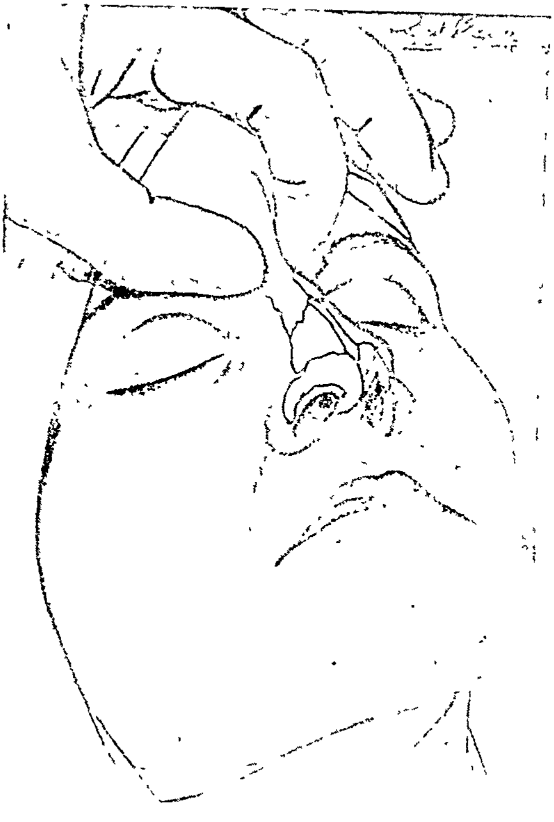

Fig. 5. Con el pulpejo de los dedos pulgar e índice de la mano izquierda (Bames) tomamos un pliegue en el entrecejo, ejerciendo primeramente suave y luego enérgica presión para embotar la sensibilidad a ese nivel.

2º. *Embrocación.* — Se reviste con algodón la punta de un palillo largo, improvisando así un hisopo, que se embebe luego en el líquido anestésico, exprimiéndolo bien para eliminar el excedente. En seguida, se le introduce en la fosa nasal bajo el control de la

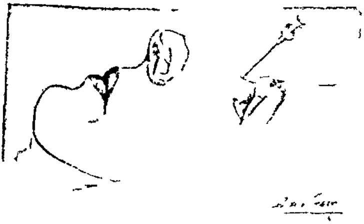

Fig 6. A nivel de la raiz del apendice nasal se hace una puntura con una aguja muy fina y muy corta. Se llega al periostio inyectando 2 c.c. de solucion anestesica. Se retira luego la aguja hasta el tejido celular inyectando 2 c.c. mas. Se hace despues lo mismo hacia uno y otro lado, bloqueando en esta forma el nervio nasal externo.

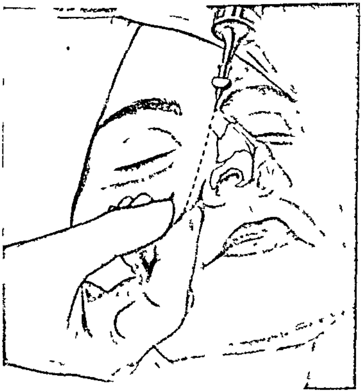

Fig 7. Por el mismo orificio se introduce una aguja de seis centimetros de longitud, delgada y flexible. Se infiltra todo el surco nasogeniano sobrepasando un centimetro el borde de las fosas nasales. A esta altura formamos luego un pliegue para buscar mejor el plano de anestesia. Bloqueamos aqui el ramillete mediano del infraorbitario.

vista, con buena iluminación y con un espéculo de Killian. Se imprimen al hisopo, más tarde, movimientos de vaivén, en dos sentidos: ánteroposteriores y verticales. Después de dos o tres minutos, se cambia el hisopo, reiterándose la maniobra [illegible] Se aguarda, en total, [illegible] anestesia [illegible] Su comprobación [illegible] se hacen los [illegible] empero mucho [illegible] ber (a) es una [illegible] tanto subsiste la [illegible]

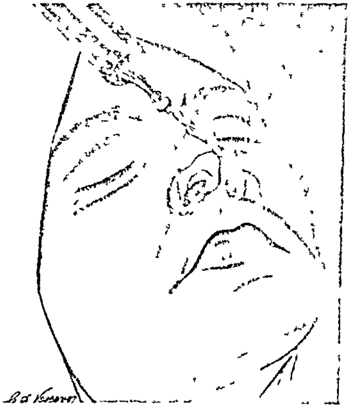

Fig 8. La aguja ligeramente encorvada se introduce nuevamente por el mismo orificio y avanza a traves del tejido celular hasta la punta de la nariz, infiltrando el dorso, el apex, la columella y parte anterior del septum. Bloqueamos aqui el nasolobular y las terminaciones del nasal interno.

muy traumática, (c) puede dar lugar a hemorragias. Nosotros, por tales razones, no la recomendamos.

3º *Imbibición.*—Como en el procedimiento anterior, este tipo de anestesia, puede efectuarse a través de algodones montados en palillos o a través de pequeños portalgodones metálicos, haciendo descansar sobre la zona que se procura insensibilizar el algodón de estos hisopos, convenientemente embebidos en el líquido de referencia. Generalmente, ellos se apoyan contra el septum ósteocartilaginoso: uno en la parte superior, otro en la parte media y el tercero en la parte inferior. Dado que anestesian únicamente la región con la cual entran en contacto, es lógico presumir que algún punto de la mucosa del tabique y de los cornetes seguirá conservando aún su sensibilidad, resultando, por lo mismo, para el enfermo, innecesariamente penosa toda maniobra endonasal en los preliminares, durante el acto y después en el postoperatorio.

De cualquier manera, si se emplea esta clase de anestesia, ella debe practicarse también con buena iluminación, con un espéculo de Killian y bajo control de la vista.

En la mayoría de los casos, nosotros realizamos la anestesia de la mucosa nasal por imbibición, utilizando, no obstante, una técnica completamente distinta a todas aquellas que se llevan publicadas hasta ahora. Nos conducimos así: ya preparadas con anticipación, tomamos una de las láminas de algodón de forma rectangular en su origen, de dos a cinco centímetros de diámetro, y la impregnamos del líquido anestésico, eliminando de inmediato el excedente. A continuación, visualizamos la cavidad, colocando el espéculo de Killian y con una pinza en bayoneta aplicamos el algodón contra el tabique, extendiéndolo totalmente, en sentido ánteroposterior y también, de arriba hacia abajo, hasta cubrirlo parcialmente. El algodón ha tomado, ahora, la forma de un cono truncado. Mientras se produce la anestesia, pasamos al lado opuesto, donde repetimos idéntica operación. Cuando transcurren algunos minutos, el algodón, que permanecía apoyado sobre la mucosa del septum, es llevado hacia arriba con la ayuda de una pinza en bayoneta, siempre bajo el control de la vista y con el espéculo colocado en la nariz. Ahora, el algodón ha sido conducido a la parte superior, quedando así localizado en el ángulo formado por el septum ósteocartilaginoso y los huesos propios en la parte más alta o posterior, y por el septum y los cartílagos triangulares o laterales en la parte anterior. Inmediatamente, colocamos una segunda lámina de algodón, embebida en el líquido anestésico, con la cual revestimos la parte del tabique que quedara descubierta al trasladar hacia arriba la primitiva lámina, como asimismo el suelo de la fosa nasal (fig. 4). Repetimos después, en el lado contrario, la misma operación, y luego de esperar diez minutos más, pasamos a practicar la anestesia externa de la nariz, mediante una técnica que será detallada más adelante.

Estimamos que nuestra anestesia endonasal es ideal, en virtud de que resulta completa y absoluta. Se consigue con ella insensibilizar la parte interna más alta del puente de la nariz, formada, como se sabe, por los huesos propios, los cartílagos triangulares y el septum ósteocartilaginosos. Si no se recurre a este arbitrio nuestro, no llega nunca hasta allí la anestesia externa, ni la endonasal, sucediendo, entonces, que al pasar ya sea el escoplo, la sierra o la cizalla a nivel de la cara mucoperióstica interna de los huesos nasales o de la cubierta mucopericóndrica del septum y de los cartílagos, se origina un dolor agudo que el enfermo acusa frecuentemente. Además, cuando se procede con la tijera o con el bisturí, al liberar el caballete para su eliminación, ocurre también que se produce una torcedura o ligera subluxación a nivel de la articulación del septum cartilaginoso con la lámina perpendicular del etmoides por detrás, o con el vómer por debajo. Todos los trastornos, como decimos, son subsanados mediante la aplicación de nuestra técnica.

4° *Pulverizacion*. Esta forma de anestesia, que nosotros declaramos no haberla empleado nunca, se encuentra virtualmente desterrada de la cirugia plastica. Ahora bien ¿Que substancias utilizamos con mayor frecuencia para conseguir la anestesia endonasal? Empleamos el clorhidrato de cocaína, la percaína y la pantocaína. Estudiaremos, en seguida, todo aquello que nos enseñó la experiencia acerca de cada una de estas substancias.

El clorhidrato de cocaína se usa en soluciones de 1 al 10 por ciento, siendo estas últimas, las mas eficaces. Si bien es el mas rápido y el mas enérgico de todos, tambien es el mas toxico. Y aunque con el se obtiene una anestesia perfecta, el enfermo, por lo regular, se pone eufórico, habla, canta y rie, pudiendo incluso producir estados proximos al sincope, cuando no síncopes verdaderos, todo lo cual representa una desventaja digna de ser tenida en cuenta. Además, las soluciones deben ser preparadas en el momento de la intervención, a causa de que se alteran muy facilmente. Por tales motivos, entendemos que el clorhidrato de cocaína tiene que ser prescripto con mucha prudencia, pese a que continúa gozando aún del favor de algunos cirujanos.

La pantocaína es un derivado de la novocaína. Se usa en soluciones al 2 por ciento. Su preparacion carece de complicaciones. Es menos tóxica que la cocaína. Su índice de toxicidad coincide con el de la percaína, siendo su acción, sin embargo, mucho más instantánea, aunque de menor duración. Con esta substancia tuvimos muchos casos de excitación molesta.

La percaína es un derivado de la quinina, muy soluble en agua y en alcohol. Es nuestro anestésico preferido. La empleamos en soluciones al 2 por ciento. Y [illegible] nosotros mismos [illegible] intervencion. Otra [illegible] que ya se le pre[illegible] Su accion es [illegible] que se produzca [illegible] hay que esperar [illegible] minutos. No obstante [illegible] resulta muy [illegible] dormidos aun durante una hora [illegible] del acto quirurgico. [illegible] provoca nunca fenómeno de excitación nerviosa. A pesar de ser la menos toxica de todas debe usarse con suma precaucion.

Como tanto la pantocaína, como la cocaína y la percaína son substancias toxicas, perjudiciales al organismo, conviene siempre no emplear mas que las cantidades estrictamente necesarias. El exceso, al pasar a la parte posterior, ocasiona la anestesia del velo del paladar y de la rinofaringe. Esto impide la deglucion de la sangre, de los coágulos y de la saliva que se acumula en la parte superior y posterior, perturbando el acto operatorio, debido a que el enfermo experimenta graves molestias, se agita y se desespera como si se estuviese asfixiando. Tampoco le es dado, por paresia muscular, sonarse la nariz, al final o durante la intervención si el cirujano se lo solicita. Si la lámina de algodón tiene más de la proporción indispensable de líquido, al llevarla a la parte superior, ocurre que el excedente es eliminado, cayendo a la rinofaringe.

Insistimos en que los algodones portadores de estas substancias deben ser embebidos con mesura, a fin de que el sobrante del líquido no determine los disturbios que acabamos de apuntar. Muchos cirujanos aconsejan anestesiar de este modo al paciente antes de que sea conducido a la sala de operaciones, comenzando así por restarle importancia a dicho acto. Nosotros opinamos que esa conducta importa una desventaja, y por tal razón, realizamos la anestesia en la sala de operaciones, asignándole a ella el valor que tiene. Opinamos, asimismo, que la anestesia no debe ser confiada nunca a un enfermero. Ni siquiera a un ayudante por más experto que sea. En nuestro concepto, el que opera no sólo tiene que afrontar la responsabilidad del acto operatorio, sino también la responsabilidad de la anestesia. No hay que olvidar, por último, que estas soluciones, altamente concentradas, jamás pueden ser inyectadas y se emplean solamente para hacer toques en la mucosa.

ANESTESIA EXTERNA

Hace mucho tiempo que nosotros abandonamos la anestesia troncular, substituyéndola por la anestesia local infiltrativa, que iniciamos en el entrecejo. A ese nivel, con los pulpejos de los dedos índice y pulgar de la mano izquierda, tomamos un pliegue cutáneo, tal cual aconseja el maestro Bames (fig. 5). Mediante suaves presiones, primero, y enérgicas, después, conseguimos a esa altura un ligero embotamiento traumático de la sensibilidad. Inmediatamente, con una jeringa de diez centímetros cúbicos, equipada de una aguja muy fina, con punta más bien corta y de buen filo, que se tiene ya dispuesta y preparada en la mano derecha, se llega verticalmente hasta el plano correspondiente al periostio, sobre los huesos propios, depositando allí un centímetro cúbico de líquido anestésico (fig. 6). Después, se retira la aguja, algunos milímetros, hasta el tejido celular subcutáneo, infiltrando en ese sitio, de dos a cuatro centímetros cúbicos. Durante ese tiempo, conviene apretar enérgicamente con los dedos, a nivel de la parte superior de la raíz nasal, a fin de impedir el pasaje del líquido a la región frontal, zona sobre la cual no se va a intervenir. Se aguarda un momento, supuesto que con la infiltración que se ha expandido de cada lado, se trata de bloquear el nervio nasal externo, cambiándose entretanto la aguja primitiva por otra de seis centímetros de longitud, también fina y flexible, que se introduce luego a nivel del mismo orificio anterior. Se avanza, más tarde, en forma oblicua, infiltrando simultáneamente, hasta recorrer en su totalidad el surco nasogeniano (fig. 7), sobrepasando un centímetro el borde libre de la fosas nasales. A esta altura, conviene formar con el pulgar y el índice de la mano izquierda un pliegue que permita buscar mejor el plano más adecuado para continuar la anestesia. Se consigue, así, la insensibilización de la parte lateral y de la región alar de la nariz, en razón de que esta zona se encuentra inervada por el nervio nasal externo en la parte alta y el ramillete mediano del nervio infraorbitario, anestesiado durante este acto. Se sabe, asimismo, que las terminaciones nerviosas de esos nervios se anastomosan, presidiendo, como se ha dicho, casi por entero, la sensibilidad externa de la nariz. Se retira de nuevo la aguja y se encorva. Después de esperar dos o tres minutos se la introduce en el mismo orificio otra vez. Se la hace avanzar a través del tejido celular recorriendo todo el dorso hasta llegar a la punta (fig. 8) infiltrando, a medida que se avanza, durante todo el trayecto. Este tiempo, igual que los precedentes, comúnmente se ejecuta sin dificultad alguna. Sin embargo, a menudo, suele interponerse como un obstáculo, susceptible no obstante de ser salvado, una giba muy pronunciada, que conspira contra la normalidad de la maniobra, bastando muchas veces para solucionar esto con infiltrar un poco mas de liquido en el tejido celular subcutaneo, que se halla mas arriba de la gibosidad. Al levantarse así la aguja, se puede encontrar un plano de fácil conducción. Se puede, asimismo, lateralizarse la aguja y con ello salvarse el obstaculo, gracias a que estando la piel y el tejido celular ya parcialmente infiltrados, los desplazamientos se hacen a voluntad. Se dispone todavia de dos recursos mas. Uno consiste en elevar, tomando con el dedo pulgar e indice de la mano izquierda, la punta de la nariz, obligando al órgano a dirigirse en busca del extremo de la aguja y sorteando asi transitoriamente la giba (fig. 9). Otro consiste en atravesar o perforar la gibosidad con la aguja para llegar hasta la punta. Si la giba es blanda y cartilaginosa, la operación no ofrece ningun impedimento. Si es dura y ósea, en cambio, se invierten los papeles, resultando imposible la maniobra. De todo modos, no es aconsejable este último arbitrio, a causa de que pueden sobrevenir dos percances: primero, que la aguja se obture con un segmento de pericondrio, de periostio, de cartilago o de hueso, y segundo, que penetre dentro de la fosa nasal.

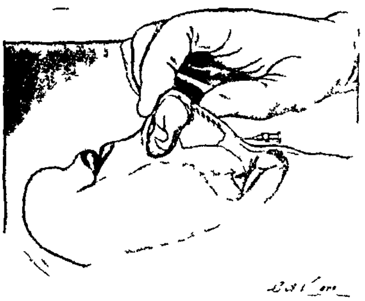

Fig. 9. Cuando una giba pronunciada impide que se llegue con la aguja a la punta de la nariz, ésta se eleva *mediante la maniobra que se muestra,* haciendo que la misma vaya al encuentro del extremo de la aguja, sorteando de esta manera el obstáculo.

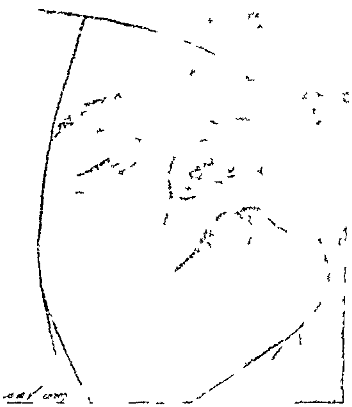

Fig. 10. En el tiempo anterior el subtabique y la columella han sido infiltrados. Ahora sí es necesario actuar sobre la espina nasal y las apófisis montantes: se procede a infiltrar la espina y el suelo nasal. Nos conducimos aquí como lo muestra la figura, inyectando primero hacia un lado y luego hacia otro.

Se llega con esta infiltración, entonces, hasta la punta de la nariz. Los cartílagos alares se revelan, aquí, bien dibujados. Con el pulpejo del dedo índice de la mano izquierda se rectifica la posicion de la punta de la aguja a nivel de la columella, procediéndose a su infiltración juntamente con el subtabique, hasta alcanzar la espina nasal, cosa que se efectúa sin ningun esfuerzo. Queremos, ahora, destacar un hecho de sumo interes y al cual concedemos nosotros una importancia basica. Se trata de lo siguiente: *la infiltración de la columella y del subtabique, con nuestro método, resulta absolutamente indolora.* Vale decir: ocurre todo lo contrario de lo que pasa con los demás procedimientos que se emplean con un fin análogo. Nadie ignora que no existe nada más doloroso que la infiltración de la columella y de la espina nasal. Suprimir por completo semejante sufrimiento, como hemos hecho nosotros, equivale, sin duda, a resolver un grave problema de orden técnico y humano.

Conseguimos, de este modo, no sólo hacer indolora la intervención, sino al mismo tiempo la anestesia, a la cual el enfermo le confiere más trascendencia que al suceso mismo del acto quirúrgico. Se vuelve a retirar la aguja y en dos excursiones sucesivas, una a cada lado, se infiltra lateralmente la nariz para facilitar más tarde la intervención. De nuevo se saca la aguja. Como se ve, con una sola puntura, se anestesió, desde la raíz, todo el apéndice nasal. Falta únicamente inyectar a nivel del piso de cada fosa, si es que se desea actuar sobre el ángulo nasolabial y sobre las apófisis montantes del maxilar. Mediante una aguja de escasa dimensión, que se introduce oblicuamente por debajo de la mucosa partiendo de la espina, se infiltra (fig. 10), lográndose con ello una anestesia impecable. Difícilmente el paciente se queja durante la operación, pues, prácticamente queda en condiciones de no experimentar molestia alguna.

Cuando se procede a la infiltración de la nariz, es menester buscar siempre el plano más apropiado del tejido celular, y no inyectar nunca la aguja cuando cae en la dermis. De lo contrario, se corre el riesgo de producir una isquemia por la presión y por la acción vasoconstrictora de la adrenalina. Condenamos, también, la costumbre de hacer habones en esta región para iniciar el acto operatorio.

¿Qué cantidad de líquido anestésico empleamos para insensibilizar la nariz? A nosotros jamás nos preocupa la cantidad. Somos, en este sentido, siempre generosos. Dejamos de lado la disyuntiva, si debemos usar diez, veinte o treinta centímetros cúbicos. Utilizamos la cantidad que, a nuestro modo de ver, es necesaria en cada caso, y nada más. Se dice, generalmente, que no se debe emplear una dosis muy excesiva, en razón de que se resienten los reparos anatómicos y las miras operatorias. Eso sucede con otros procedimientos. Con el nuestro, en cambio, no sucede nunca, pues al practicar las incisiones endonasales, así como la liberación amplia de la cubierta cutánea que recubre la pirámide de la nariz, el excedente del líquido es eliminado en su totalidad, permitiendo de este modo que la anestesia sea perfecta. Por otra parte, una buena infiltración, nos facilita ampliamente la intervención quirúrgica, por la disección infiltrativa que se hace de los planos mediante el líquido inyectado.

La técnica que acabamos de describir nos permite ejecutar la más delicada y completa de las rinoplastias parciales. Vale decir: la operación de una rinomegalia. Nos faculta para actuar sin ocasionar ningún dolor en cualquiera de sus segmentos, y por tanto, en cualquiera de sus distintos elementos constitutivos. Ahora, hay que decir, que no siempre es indispensable hacer esa clase de anestesia, sobre todo cuando se va a realizar una rinoplastia parcial, ya sea a nivel del septum, a nivel de las alas nasales, como de cualquier otro segmento independiente. Aquí, el cirujano, obra lógicamente anestesiando la región sobre la cual actuará únicamente.

RESUMEN

En el presente trabajo el autor hace la descripción de su método de anestesia local en las rinoplastias. Divide su exposición en tres tiempos, a saber: (a) Sedación preanestésica, (b) anes-

tesia de la mucosa nasal y (c) anestesia interna infiltrativa.

Hace un sumario de la inervación interna de la nariz, describiendo con cierto detalle la distribución nerviosa: nervio nasal interno, nervio esfenopalatino y nervio nasal posterior, entrando luego a reseñar la inervación externa: nervio nasal externo, nervio nasolobular y ramos medianos del infraorbitario.

Señala los diversos modos de lograr la anestesia endonasal: inyección, embrocación, imbibición y pulverización. Señala luego los detalles de una correcta anestesia externa, describiendo las substancias anestésicas que deben emplearse de preferencia.

Ilustra su disertación con varias figuras que dan clara idea de la técnica anestésica y de la anatomía nasal. Afirma, finalmente, que con esta técnica se pueden llevar a cabo intervenciones operatorias nasales sin ocasionar al paciente la más mínima molestia o dolor.

SUMMARY

The author describes his method of local anesthesia for rhinoplasty. He divides the subject into three steps: (a) sedation prior to anesthesia, (b) anesthesia of the nasal mucous membrane and (c) internal infiltrative anesthesia.

He summarizes the internal innervation of the nose, describing in detail the nervous distribution, internal nasal nerve, sphenopalatine nerve, posterior nasal nerve; later he goes on to describe the external innervation, external nasal nerve, nasolobular nerve and branches of the infraorbital nerve.

He points out various methods of obtaining the internal anesthesia of the nose: injection, rubbing, imbibition and spraying. Later, he describes the details of correct extern[illegible] th[illegible] analyzing the anesthetic su[illegible] should be employed by preference.

Finally, the author states [illegible] this method any surgical p[illegible] the nose can be performed w[illegible] voking discomfort or pain [illegible] patient.

The illustrations give a clear idea of the technic described and of the nasal anatomy.

RESUME

L'auteur nous décrit sa méthode personnelle d'anesthésie locale pour rhinoplastie. Il divise son sujet en trois stades: *a* la sédation avant l'anesthésie, *b* l'anesthésie de la muqueuse nasal, *c* l'anesthésie infiltrative interne.

Il décrit, brièvement, l'innervation interne du nez et décrit en détail la distribution du nerf interne nasal, du nerf sphéno-palatin et du nerf nasal postérieur. Il nous décrit aussi l'innervation externe, le nerf nasal externe, le nerf naso-lobulaire et les rameaux terminaux du nerf infraorbital.

Il indique différente méthodes pour obtenir l'anesthésie interne du nez, l'injection, le frictionnement et la vaporisation. Cela est suivi de la méthode correcte pour obtenir l'anesthésie externe, et est accompagné d'une analysie des différentes substances anesthésiques qui nous procurent les meilleurs résultats.

Les illustrations nous donnent une excellente notion de la technique préconisée par l'auteur, et nous donnent aussi une excellente représentation de l'anatomie nasale.

L'auteur nous assure que toute intervention chirurgicale sur le nez peut être accomplie sans que la malade ressente aucune douleur ou aucun malaise.

(Continuado en página [illegible]09)

Estadísticas Traumatólogicas

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VAMOS a analizar las estadísticas que a continuación detallaremos, tomadas de nuestro servicio de Traumatología de la Clínica "Ledón Uribe."

En la primera hemos estudiado 6,443 casos de la industria agrícola, observando el número de casos de cada región del cuerpo y el tanto por ciento del número total.

En la segunda analizamos 17,020 en que hemos acoplado los traumatismos industriales y los agrícolas y hemos catalogado los casos igual que en la estadística anterior.

En la tercera analizamos 27,204 casos y hemos hecho un estudio de los cuerpos extraños que se han presentado, dando los tantos por cientos en relación con el oficio del lesionado; con la sustancia introducida y el tanto por ciento segun la región en que estos cuerpos extraños se han alojado.

A continuación de cada cuadro nos limitaremos a hacer algunas observaciones y, al final, las conclusiones en relación con las estadísticas descritas.

En el cuadro No. 1 se observa:

1°. Que a la mano derecha corresponden 803 casos que constituyen el 12.46 por ciento del total de los casos.

2°. Que a la mano izquierda corresponden 2,993 casos que constituyen el 46.45 por ciento de la totalidad de los mismos.

3°. Que a ambos manos corresponde el 58.91 por ciento del total de las lesiones.

4°. Que a los ojos corresponden 685 casos que es el 10.63 por ciento, siendo el tanto por ciento mayor después de los casos de manos.

Estadística Por Regiones Anatómicas de Accidentes Ocurridos en Labores de Caña
(Cuadro No. 1)

Partes del Cuerpo	No. de Lesiones	Porcentaje
Cabeza	73	1.13
Ojos	685	10.63
Cara	47	0.73
Cuello	14	0.22
Clavículas	6	0.10
Hombro derecho	7	0.11
Hombro izquierdo	23	0.36
Brazo derecho	97	1.51
Brazo izquierdo	152	2.36
Mano derecha	803	12.46
Mano izquierda	2,993	46.45
Torax	133	2.06
Tronco	46	0.71
Región abdominal	6	0.10
Región inguinal	13	0.20
Región lumbar	11	0.17
Cadera	17	0.26
Muslo derecho	2	0.03
Muslo izquierdo	2	0.03
Pierna derecha	438	6.80
Pierna izquierda	216	3.35
Rodilla derecha	18	0.28
Rodilla izquierda	242	3.76
Pie derecho	183	2.84
Pie izquierdo	215	3.34
Asfixia	1	0.01
TOTALES	6,443	100.00

En el cuadro No. 2 se observa:

1°. Que a la mano derecha le corresponden 2,907 casos, que son el 17.08 por ciento.

2°. Que a la mano izquierda le corresponden 3,257 casos, que constituyen el 19.14 por ciento, por lo que a ambas manos corresponde el 36.22 por ciento.

3°. Que a los ojos le corresponden 1,743 casos, que constituyen el 10.2 por ciento.

ESTADISTICA POR REGIONES ANATOMICAS DE ACCIDENTES OCURRIDOS EN TODA CLASE DE LABORES

(CUADRO No 2)

Partes del Cuerpo	No de Lesiones	Porcentaje
Cabeza	373	2 192
Cara	680	3 995
Ojos	1,743	10 241
Cuello	46	0 272
Tronco	288	1 692
Torax	606	3 561
Abdomen	145	0 852
Región inguinal	651	3 825
Región lumbar	416	2 444
Región crural	15	0 088
Región sacra	87	0 511
Región glutea	35	0 206
Región genital	108	0 635
Cadera	11	0 241
Clavícula	66	0 388
Hombro derecho	141	0 828
Hombro izquierdo	133	0 781
Brazo derecho	167	0 981
Brazo izquierdo	117	0 687
Codo derecho	93	0 546
Codo izquierdo	69	0 405
Antebrazo derecho	315	1 851
Antebrazo izquierdo	302	1 774
Mano derecha	2 907	17 080
Mano izquierda	3 257	19 136
Muslo derecho	113	0 664
Muslo izquierdo	103	0 605
Rodilla derecha	206	1 210
Rodilla izquierda	208	1 222
Pierna derecha	347	2 039
Pierna izquierda	354	2 080
Pie derecho	1,478	8 684
Pie izquierdo	1 389	8 161
Cuerpo extraño (naso faringe)	3	0 018
Cuerpo extraño (esófago)	1	0 006
Tetanos	2	0 012
Intoxicación	11	0 065
Asfixia	4	0 024
TOTALES	17 020	100 000

En el cuadro No 3 se observa

1º Que a los obreros agrícolas corresponden 41 casos del total, que constituye el 39 04 por ciento

2º Que siguen en orden de frecuencia las costureras, entre las que se encuentran 18 casos y constituyen el 17 14 por ciento

3º Que a fragmentos metálicos corresponden 38 casos, que constituyen el 36 19 por ciento

4º [illegible] a la mano le corresponden 51 casos [illegible] representan el 48 57 por ciento

ESTADÍSTICA [illegible]

(CUADRO No [illegible])

Oficios		Obreros agrícolas	[illegible]	[illegible]
		Costureras	[illegible]	[illegible]
		Mecánicos	[illegible]	[illegible]
		Pescadores	[illegible]	1 904
		Carpinteros	[illegible]	4 761
		Peones	5	4 761
		Chapistas	1	0 952
		Neveros	1	0 952
		Plomeros	1	0 952
		Choferes	1	0 952
		Maquinistas	1	0 952
		Fundidores	1	0 952
		Comerciante	1	0 952
		Lavadores	5	4 761
		Albañiles	3	2 857
		Tejedores	2	1 904
		Chapeadores	2	1 904
		Guarda Campos	1	0 952
		Remachadores	1	0 952
		Mineros	1	0 952
		Estibadores	1	0 952
Cuerpos Extraños	Minerales	Fragmentos metálicos	38	36 190
		Cristales	1	0 952
		Agujas	20	19 042
	Animales	Huesos	1	0 952
		Espinas de pescado	3	2 857
	Vegetales	Astillas	14	13 333
		Espinas	26	24 757
		Otros	2	1 904
Región		Mano	51	48 571
		Hombro	5	4 761
		Brazo	18	17 142
		Maxilar superior	1	0 952
		Pierna	15	14 285
		Ojo	2	1 904
		Pie	8	7 619
		Torax	1	0 952
		Labios	1	0 952
		Tráquea	1	0 952
		Amigdala	1	0 952
		Oido	1	0 952
Numero de casos examinados			27,204	
Numero de cuerpos extraños			105	0 380

De lo expuesto anteriormente se derivan las siguientes conclusiones finales

1º Que las lesiones de la mano ocupan el mayor tanto por ciento de todas las lesiones del cuerpo

2º Que las lesiones de la mano izquierda son más frecuentes que las de la mano derecha

3º Que en la industria agrícola ha gran diferencia entre las lesiones de la mano izquierda y de la derecha, deb

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Transplantation of the Ureters to the Bowel

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TRANSPLANTATION of the ureters to the bowel, transforming the separated functions of urinary and fecal elimination to an artificial cloaca, has intrigued surgeons ever since the monumental experimental work of Coffey, Mayo and others. The several methods that have since been devised by others to accomplish this result show that no one method has as yet proven completely satisfactory. Heretofore, the attempts have been carried out transperitoneally; the hazards of this approach have been thoroughly recognized by those men who have attempted this surgical procedure. The results have been very unsatisfactory from the standpoint of mortality and morbidity. Mortality among my own cases in the transperitoneal approach was over 50 per cent. This caused me (and many others) to abandon this procedure except in those cases where death itself was preferable to the patient to life with the existing clinical condition.

There are many modifications of the original technic offered by Coffey; even Coffey himself had modified and remodified his original technic. All procedures since devised have as their fundamental principles those advocated by him when he first reported the results of his experimental and clinical work in 1911. However, in the hands of most of us, these transperitoneal procedures carried with them great dangers both immediate and remote. The heavy mortality in my own cases was due to peritonitis, ileus, intestinal obstruction, rapid fulminating pyelonephritis and ureteral obstruction, with or without infection, causing hydronephrosis and renal parenchymal destruction.

In 1935, I devised an extraperitoneal modification of the operation and reported the technic in 1942, as a motion picture, at the American Urological Association meeting in New York. On the same program, Priestley of the Mayo Clinic read a paper upon almost the identical technic as developed at the Mayo Clinic by himself. Counsellor of the same Clinic does a similar operation. Both of these presentations were given without either of us knowing of the similarity of our work. The technic of our operations was virtually identical; Counsellor likes some of the minor things I do better than his own while I like some of the minor things he does better than mine. We have discussed the similarity of our original thinking and both of us have so modified our own technics that the operation we do today is practically the same.

INDICATIONS

1. Cancer of the urinary bladder, urethra and vagina. There are certain types of cancer of the bladder where I now believe that bilateral transplantation of the ureters to the bowel, with total cystectomy, is definitely indicated These are the cancers of the urin bladder which, because of their loca and size, can not be treated cystos cally; where the bladder is f

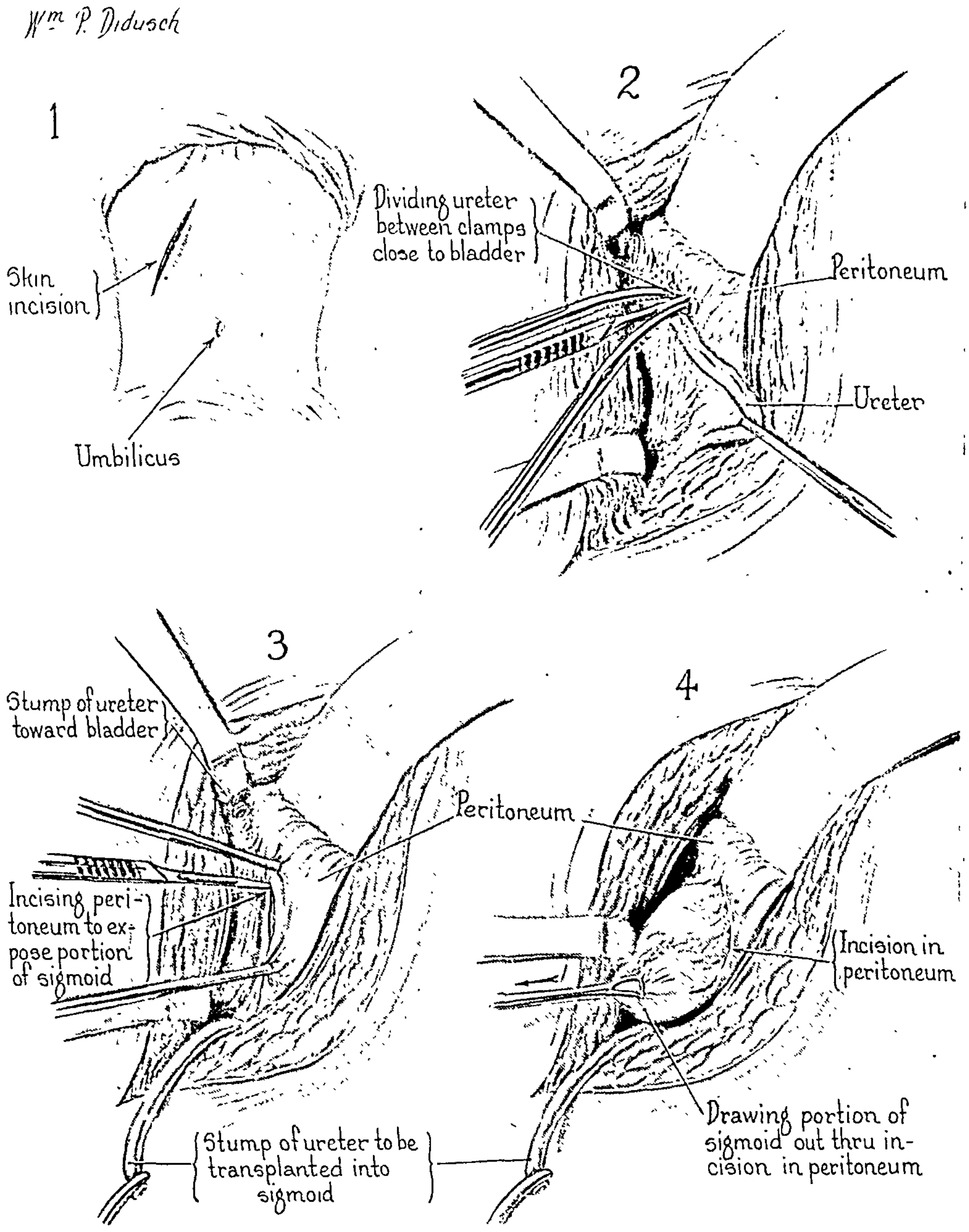
Wm P. Didusch
1
Skin incision
Umbilicus
2
Dividing ureter between clamps close to bladder
Peritoneum
Ureter
3
Stump of ureter toward bladder
Peritoneum
Incising peritoneum to expose portion of sigmoid
Stump of ureter to be transplanted into sigmoid
4
Incision in peritoneum
Drawing portion of sigmoid out thru incision in peritoneum

Fig. 1

movable, and where there is no direct evidence of bladder wall fixation to the underlying tissue or of metastasis. Occasionally, the operation is indicated in primary carcinoma in the urethra of the female where there has been extension to the base of the bladder and to the anterior wall of the vagina. In these cases, total cystectomy with removal of the anterior wall of the vagina and urethra is definitely indicated; if it is feasible to transplant the ureters, again there should be no direct evidence of glandular metastasis.

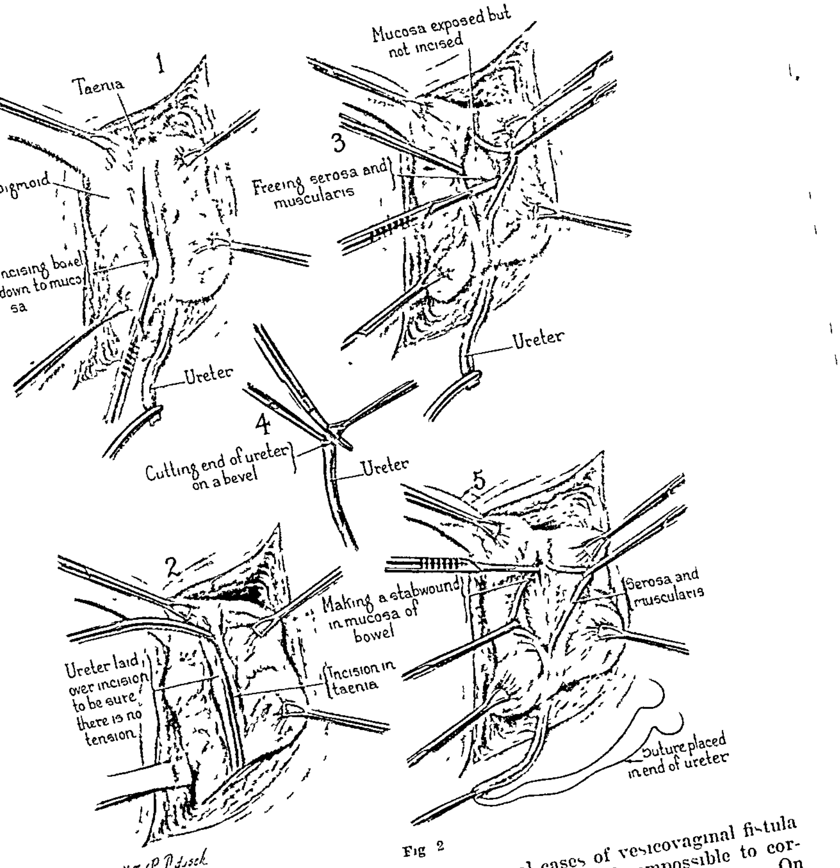
1
Taenia
igmoid
ncising bowel down to muco sa
Ureter
3
Mucosa exposed but not incised
Freeing serosa and muscularis
Ureter
4
Cutting end of ureter on a bevel
Ureter
2
Making a stabwound in mucosa of bowel
Ureter laid over incision to be sure there is no tension
Incision in taenia
5
Serosa and muscularis
Suture placed in end of ureter
Wm P Didusch

Fig 2

2 In certain types of inoperable vesicovaginal fistula, the operation is definitely indicated, particularly if there has been no upper urinary tract obstruction due to stricture-formation just above or at the intramural portion of the ureter I have done the operation on several cases of vesicovaginal fistula that were absolutely impossible to correct by local operative procedures. On several occasions the cause of the fistulae was a radium reaction, usually following the treatment of cervical carcinoma (These are the most difficult to close.)

Vingt-huit malades furent soumis à cette opération. Il n'y eut aucun décès. Deux fois, il y eut étranglement de l'urétère a son entrée dans l'intestin, accident probablement dû à ce que la dernière ligature fut trop serrée. Il fallut pratiquer la néphrectomie dans ces deux cas. La technique de l'operation est facile et les résultats sont bons.

RESUMEN

Quedan bien definidas las indicaciones para la transplantación de los uréteres dentro del intestino. Se describe una simple técnica para la transplantación extraperitoneal de los uréteres, puesta en práctica 28 veces sin un sólo caso de defunción. Se presentaron dos casos de estrechez uretral en la entrada de la pared del intestino, debido, probablemente, a que al atar la última ligadura demasiado estrechamente se produjo refrectomía. La técnica de operación es fácil y los resultados buenos.

Заключения

Показания на трансплантацию мочеточников в кишку очень определенные. Описана простая техника внеперитонеальной трансплантации мочеточников, которая была применена 28 раз без смертельного исхода. Два раза случилась стриктура мочечника у входа в стенку кишки, по всей вероятности причиненная слишком тугим последним швом. Необходимо было произвести нефректомию. Оперативная техника простая и результаты хороши.

CANDIDATES TO RECEIVE THEIR DEGREES AT THE CONVOCATION IN DETROIT TO TAKE PLACE DURING THE ELEVENTH NATIONAL ASSEMBLY OF THE UNITED STATES CHAPTER OF THE INTERNATIONAL COLLEGE OF SURGEONS ARE URGED TO COMMUNICATE IMMEDIATELY WITH

Dr. L. J. Gariepy, General Chairman
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Detroit, Michigan;

ALSO, IF HOTEL RESERVATIONS HAVE NOT BEEN SECURED, TO CONTACT

Dr. Charles W. Husband, Chairman Housing Committee
1005 Stroh Building
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Experiments with "Cuto-Omentopexy" and Skin Homotransplantation*

FELIX MANDL MD FICS
AND
N RABINOVICI MD
JERUSALEM PALESTINE

I

THERE is no doubt that in the case of hepatic cirrhosis, renal hypertension or coronary insufficiency, a collateral derivative circulation can be established by means of omentopexy, relieving congestion in the hepatic parenchyma (Talma and Van der Meulen 1889, and Rutherford Morison, 1896) and, in the case of coronary insufficiency, improving the blood supply to the cardiac muscle (Beck, C S 1930, Beck, C S, and Tichy, V L 1935, and O'Shaughnessy, 1935)

It has now been tried to apply the principle underlying omentopexy to skin transplantations (full thickness grafts) The idea was to interpose a layer of extraperitonealized omentum—either pedunculated or free—between the transplanted skin and the wound Thus it was hoped to create conditions most favorable for the vascularization of the transplants which is one of the decisive factors for the success of the operation (Harvey B Stone, 1934, E C Padget, 1942 I E Sheehan, 1943 and F Young, 1944) Another question was whether by the help of this method it would be possible to perform true homotransplantation of skin grafts

In this the first part of our study, an account is given of our preliminary experiments and the manner described in which contact was established between the extraperitonealized omentum and the skin Further the time required was ascertained for the establishment of the vascular connections

EXPERIMENTS

Twenty six rabbits from different sources and of approximately the same size and weight were used Under ether anesthesia median superior laparatomy was performed The incision was about 3 cm long Upon opening the peritoneum, the omentum was grasped and exteriorized at the lower angle of the wound The peritoneum and muscles were closed in two separate layers The skin was dissected from the subcutaneous fat tissue so as to form a pocket with sides 3 cm long The omentum was placed into this pocket and fixed to its corners by separate sutures Finally compression and a sterile dressing was applied

After 3, 7, 14 and 21 days respectively the skin was excised together with its omental lining and examined histologically

In six further experiments, the omentum placed into the pocket consisted not of a pedunculated but of a free flap The technic of the operation was the same as in the first series

RESULTS

Gross Aspects At the site of the extraperitonealized omentum a mammelioned elevation was observed The skin underneath remained normal as to color hair and co

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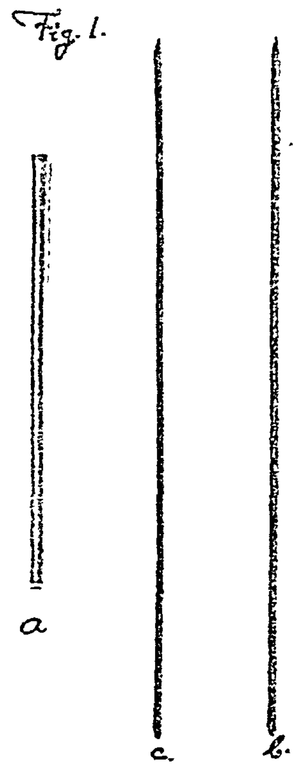
In only a couple of cases have I encountered a removal of the protrusion to the lateral side. The varying localization of the nerve roots naturally depends on the point where the protrusion originates and in what direction it projects later in the course of its growth. In my opinion the nerve roots situated on the lateral side of the protrusion, or "riding" on it, should—as far as possible—be transferred to the medial side of the tumor adjacent to the dural sac. This is advantageous for several reasons, above all owing to the fact that when proceeding thus there is no fear of the nerve roots remaining, for instance laterally of the tumor, being injured in the course of the excochleation of the protrusion. Besides, a "scattered localization" of the nerve roots causes a disturbing continuous dislocation of those roots during the whole of the process of evacuation or, as will be seen later, while certain measures are being carried out.



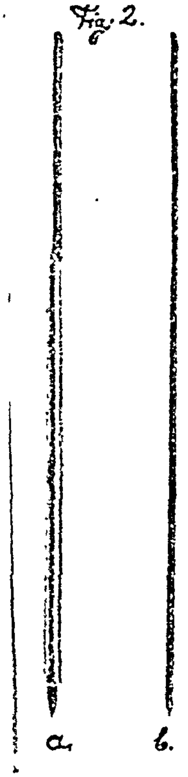


Fig. 1.

Length of the gouge	12.5 cm.
Ellipse of the tip of gouge	
Longer diameter	0.6 cm.
Shorter diameter	0.4 cm.
a. Gouge, length	12.5 cm.
b. Thicker steel pin	
Guide, length	19.0 cm.
Diameter of conductor	3.0 mm.
c. Thinner steel pin	
Guide, length	19.0 cm.
Diameter of guide	2.0 mm.

Fig. 2.

a. Gouge and guide introduced into it.
b. Thinner guide.

While the nerve roots are being transferred in a medial direction—especially in the case of roots situated laterally from the protrusion—the patient suffers almost without exception from paroxysmal, neuralgic pain in the area of innervation of the corresponding peripheral nerves. The pain is sometimes excruciating. If, in such cases, 1 per cent novocain solution is injected into the neural root or into the enclosing dural sac, the pain has, in the majority of my cases, at once disappeared. Similar experiences have been met with earlier by Bradford, Spurling, Norlén and others. The transference of the nerve has then been carried out quite painlessly. This complete anesthesia is possessed of the great advantage that in the transferring of the nerve root, necessary attention can be devoted to the venous dilatations surrounding the nerve and all haphazard preparation can be avoided which would only occasion mechanical injury to new veins with consequent hemorrhage. As I have already mentioned, the removal of the nerves close to the dural sac possesses the advantage that the operational area around the seat of the protrusion extends considerably and the surgeon need not feel anxious about unintentionally injuring the roots of the peripheral nerves when performing the excochleation The operational area can be additionally extended by removing the dural sac and the adjacent nerve roots, by means of a couple of blunt hooks, over to the opposite side of the protrusion

In this connection it should, however, be mentioned, that in some cases, on account of anatomical and topographical circumstances, the removal of the nerves situated laterally from the disc tumor close to the dural sac has proved technically impracticable

When detaching the nerve roots bluntly from their foundation or transferring them to the neighborhood of the dural sac, the hemorrhage from the veins on the surface of the root has not generally been profuse I have managed to stop it by using a light local compress, i e, by placing on the bleeding point a cotton swab moistened in hydrogen peroxide solution, or by means of a stryphnon gauze compress

II On the surface of the protrusion there has always been, in my cases, a varicose plexus formation, the size of which has varied depending upon how severe a venous stasis has been produced by the disc herniation in each case As the venous dilatations in question have very thin walls, the danger of venous rupture is close at hand if they are transferred from their proper locations at all carelessly, troublesome, profuse bleeding will then follow The stopping of hemorrhage in the manner mentioned above usually takes an undue length of time and hampers the excochleation of the disc prolapse in spite of the use of a suction apparatus

Can the hemorrhage in question be stopped in a satisfactory and effective way? In my opinion this is fully possible by destroying, by means of electrocoagulation, all the veins on the surface of the herniation over a sufficiently extensive area Whether a needle shaped electrode, or one in the form of a knife, or a knobhead electrode should be used for this purpose will, of course, depend upon the situation in question and upon the judgment of the surgeon The varicose veins on the surface of the disc herniation will in this manner be easily and quickly destroyed over a sufficiently large area and the disturbing hemorrhage eliminated Now follows the evacuation of the disc herniation itself

III This measure, the most important in the surgical management of disc protrusion, I performed in a couple of my first cases by attempting to introduce a sharp scoop through the firm connective tissue capsule surrounding the protrusion I managed to do this, of course, but managed badly The removal of the nucleus pulposus took, in addition, an unduly long time, and the nucleus was eventually removed in small loose fragments The result did not seem to be in conformity with the large disc herniation and with the mass of nucleus pulposus scooped from within it The excochleation left me with the impression that I had not been able to remove the degenerated nucleus pulposus completely

In order to effect a really radical excochleation I had made two quite simple auxiliary devices One of them is a round gouge, 12 5 cm in length (4 5 inches), with an elliptic cavity, the longer diameter of which is 0 6 mm, the shorter 0 4 mm The tip of the gouge is sharpened To find out at what point the nucleus pulposus has protruded from its normal location—to ascertain, in other words, where the neck of the disc herniation is situated—I first use the ordinary, medium sized needle of a puncturing syringe I measure the depth to which the needle penetrates, calculated from the bottom surface of the dural sac (the sagittal diameter being in the lower part of the lumbal area about 1 cm.). The needle penetrates usually about 3.2 to 3.8 cm. deep (1.15–1.39 inches), its point then meeting a solid obstruction. The depth of the cavity of the nucleus pulposus varied thus in my cases between 2.2 and 2.8 cm. Having drawn out the puncturing needle, I place it at exactly the same height on the surface of the protrusion and as close as possible to the point where the puncturing has been performed. Now it is very simple and easy to place the gouge tube at the correct point. A couple of light blows on the end of the gouge are enough to make the instrument penetrate into the intervertebral fibrous cartilage to meet the solid obstruction at the depth mentioned earlier. The gouge is removed and through the canal made by means of it, a sharp scoop or curette (Voris) is introduced into the nucleus pulposus. A couple of forcible ladlings of the scoop suffice to evacuate the degenerated mass of nucleus. Pueche uses for this purpose a narrow convex chisel which of course also makes for a serviceable procedure.

More recently, I have used, instead of the puncture needle, a rather thick pin, made of steel, 3 mm. in diameter, one end of which has been sharpened into a conical tip. The pin is longer than the gouge, 19 cm. (6.8 inches) (fig. 1). The pin acts as a reliable guide when the gouge tube is installed (fig. 2). The pin is naturally withdrawn before the gouge is stuck into the nucleus pulposus. It is of course essential that there be gouges of different sizes at hand, with a view to the possibility of the disc herniation being situated elsewhere than in its classic locations (L_3–L_4, L_4–L_5, L_5–L_6), since in the first-mentioned portions of the spinal column the fibrocartilago-intervertebralis is considerably thinner than in the lumbar or lumbo-sacral portions. When aspiring to as great thoroughness as possible in one's work, one can make sure, with some additional scoopings, that the degenerated tissue has been completely removed from the cavity of the nucleus pulposus, all along the osseous surfaces of the vertebrae bounding it and along the solid anterior wall of the cavity. If the varicose veins have been electrocoagulated on the surface of the protrusion on a sufficiently extensive area, its fibrous capsule can be completely removed without any risk of hemorrhage. The removal can be performed either with a knife, with small scissors, or by using an electro-coagulation knife.

It is perhaps not out of place to point out that the procedure described in the foregoing is serviceable not only in cases of unilateral but also in bilateral disc herniations. Nothing prevents one, moreover, from making two gouged holes, for instance (with a view to the excochleation of large herniations), through which complete removal of the protrusion is technically fully insured. Such a relatively extensive primary removal of the capsule of the protrusion corresponds to the convex-chisel procedure used by Pueche.

I should also like to mention that by making use of this method of excochleation carried out, so to say, "from the inside," I have succeeded in removing degenerated parts of the intervertebral disc which have been comparably larger in size than was the case in my first operations.

SUMMARY

While the author frankly states that he has not had any very extensive experience with excochleation of disc hernia-

tion, and is not at all sure that his own work may not have been paralleled by other workers in France or Anglo America, he undertakes to offer a method of dealing with the three fold problem presented by this condition, that he has worked out as a result of earlier failures with more conventional procedures He first discusses these earlier failures then outlines the three chief obstacles to be overcome He then describes in detail his own procedure His illustrations are of instruments he has devised for use with this procedure

RESUME

Quoique l'auteur admette que son experience avec l'excochleation pour l'herniation des disques n'est pas tres etendue et qu'il se peut que ses recherches parallelent l'ouvrage deja fait en France et en Amérigûe, il presente une methode de traitement qu'il pratique apres avoir echoue avec des methodes mieux connues Il discute des anciens echecs et decrit les trois principaux obstacles a surmonter Il présente des illustrations des instruments qu'il a inventes pour faciliter son procede

RESUMEN

El autor dice con toda sinceridad que el nunca ha tenido una experiencia verdaderamente extensiva con la extirpacion de la hernia, y que no esta del todo seguro de que su trabajo no haya sido hecho ya por otros técnicos en Francia, Inglaterra o los Estados De todos modos cree ofrecer un metodo de tratamiento de tres casos que se le presentaron en dichas condiciones y que realizo después de haber fracasado con los procedimientos usuales En el primer caso expone sus fracasos iniciales y define igualmente los tres principales obstaculos que tiene que remontar Tambien describe en detalle su propio sistema Ilustra el trabajo con los instrumentos que él invento para usar en su tratamiento

Свод

Автор заявляет, что хотя он не имел большого опыта в экскохлеации дисковой грыжи, и что он не уверен, что его работа не была уже совершена другими во Франции и Англо Америке он все же предлагает свою методу разрешения трех сложной задачи представленной этой болезнью Он выработал этот способ в результате прежних неудач при применении более принятых метод Он сначала описывает свои ранние неудачи затем дает три главных препятствия которые необходимо преодолить Затем он подробно описывает свой собственный способ Иллюстрации показывают инструменты, которые он выработал для применения этого способа

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(Continued from page 530)

En la primera parte, el autor describe los resultados obtenidos cuando la piel y el omento provenian del mismo animal que servia para el ensayo En la segunda parte habla de los esfuerzos para lograr injertos con los mismos metodos pero de un animal a otro En el primer grupo de experimentos, el resultado fue positivo, pero en el segundo, fue completamente nulo

(Continued on page 541)

Carcinoma of the Breast[*]

HERBERT ACUFF, PH.G., M.D., F.A.C.S., F.I.C.S.[†]
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IN presenting the subject of carcinoma of the breast to any group of surgeons, one is fully conscious that little original material remains unpublished on this all important subject. My justification is based upon the fact that we have a fairly satisfactory mortality rate in a study of 1,000 cases of carcinoma of the breast, and that this rate is believed to be definitely associated with, and in a large measure, due to:

1. Definite classification and grouping of cases;
2. Pre- and post-operative management;
3. Especial emphasis on certain points of operative procedure.

Breast cancer constitutes 40 per cent of the cancer problem since 40 per cent of all cancers occur in the female breast. These are distributed one-third in the upper outer quadrant of the breast, one-fifth in the central area and the remainder in various other areas. A careful survey is being made by the American Cancer Society, The International Board of Cancerology of the International College of Surgeons and other similar groups to determine the extent of the spread of cancer throughout the world. Already it is conservatively estimated that there are 50,000 women in the United States suffering from cancer of the breast. The life expectancy of a patient with an untreated cancer of the breast is only three years, thus making an economic problem of astronomical proportions.

Tumors of the breast have been referred to by as many as 54 names and classifications. Yet, for a working level, we are well aware that true tumors of the breast fall into two groups, of which 15 per cent are fibro-adenomata and 80 per cent are carcinoma. The remaining 5 per cent represent the controversial classifications of various pathologists. Boyd is emphatic in his contention that every tumor of the breast should be regarded as malignant until biopsy has proven otherwise. Regardless of how we professional men regard these tumors, the womans interest centers around the four symptoms for which she primarily seeks advice; namely,

1. The proverbial "lump",
2. Bloody discharge from the nipple,
3. Ulceration of the nipple, and
4. Pain.

We have learned that the "lump" is 90 per cent malignant in women above 40 years of age; this flagrant truth should demand thorough and adequate treatment. Further consideration, perhaps, should be given the 15 per cent of tumors of the breast referred to above as fibro-adenomata.

There is the pericanalicular type which is relatively rare, hard to the touch, slick and slippery, which grows large and comes out of its capsule easily when incised. Grossly on section, they cut like cartilage, are whitish in color and do not present the gritty feeling which is evident in handling tissue of a scirrhous carcinoma. This type of growth is mostly seen in patients from puberty to age 25.

The second type is the intracanalicular fibro-adenoma seen in later life (30–50 years), is more fibrous, resembles the prostate gland on section, is grayish-white in appearance and contains many small cauliflower-like masses. This intracanalicular type may grow very large and degenerate into true carcinoma.

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[*] Presented at the Fifth International College of Surgeons' meeting in Lima, Peru, March 25, 26, 27, 1946.

[†] Chief of Staff, St. Mary's Memorial Hospital; Director of Surgery, Acuff Clinic.

There is the third type involving the ducts which is classified under various names such as adeno cystoma, intracanalicular cyst-adenoma, etc. The involvement is usually close to the nipple and presents a papillomatous growth which projects into the dilated ducts. The blood vessels are large thin walled, and vascular therefore bleeding from the nipple is one of the main characteristics.

Chronic cystic mastitis, referred to by Cheatle as *mazoplasia*, by Whitehouse as mastopathy and by Smith as lobular hyperplasia, is a painful nodular condition of the breast presenting multiple cysts or one large solitary cyst—the "blue dome" cyst of Bloodgood. The condition is one of benign hyperplasia, grows slowly, is usually seen in only one breast, may or may not be constantly painful and may eventually extend to the other breast. When pain is present, it is worse at menstruation. Axillary glands may be enlarged and painful. A series of conflicting observations are present in cystic mastitis, e.g., the single or multiple invasion in one or both breasts, the granular infiltration felt when palpated between the finger and thumb or the glands may not even be palpable but just tender and sensitive to the touch. This is in contradistinction to the numerous shot-like enlargements of glands usually felt in this condition. Many times a serous-like discharge is noted or may be expressed from the nipple. These glands are not adherent to the muscles nor to the skin, but because of subcutaneous enlargement around Cooper's ligaments, retraction or distortion of the nipple may be seen.

On gross section of these glands, the lesion is tough like rubber, yellowish-white, not encapsulated and not definitely circumscribed. They are usually multiple, freely movable and do not have the stony hardness or the familiar yellow streaks or specks so characteristic of malignancy in the breast.

Schimmelbusch described a condition in which numerous small cysts are present throughout the breast. Bloodgood called attention to a preponderance of larger cysts situated deep in the breast tissue. These cysts contain a clear or cloudy but never hemorrhagic fluid. The presence of blood in the contents of these cysts is strongly suggestive of malignancy. A passing peculiarity is noted clinically in the "blue dome" cyst inasmuch as the bluish appearance promptly disappears when the cyst wall is punctured.

True cystic mastitis progresses slowly with cycles of regression and exacerbation over a period of 15–30 years. Sixty per cent recover spontaneously under general tonics, exercise, wholesome diet and the judicious use of progesterone.

Solitary cysts may be aspirated; this is curative in 75 per cent of cases. The aspirated fluid contains an excess of Estrin which justifies the withholding of Estrone therapy in cystic disease of the breast. In the cases which do not respond to the above treatment, surgical removal should be done (1) because they have a tendency to grow larger, (2) because 10 per cent of them may become malignant, (3) because removal and examination removes a disturbing mental anxiety from the patient.

. Before a consideration of cancer of the breast is made, the lesions above referred to should and must be considered from a differential diagnostic viewpoint. The pathological records of our hospitals throughout the country are *too* full of reports of benign lesions, in which total or even radical mastectomy has already been performed.

The relationship between cystic dis-artery. In spite of the embolectomy, the leg had to be amputated.

Thrombosis of the femoral artery may be expected at any time from a suppurative lesion. The occurrence is enhanced by arteriosclerosis of the blood vessels. In the patient above referred to, there was no suppuration, but he did have considerable arteriosclerosis in the iliac and femoral arteries. Williams[4] suggests that when arteriosclerosis is known to be present, it is best to take precautionary measures to prevent thrombosis.

de Takats[3] believes that a differentiation should be made between embolism and thrombosis and that an attempt should be made to localize the site of occlusion; that conservative measures may be used first, but if this fails, an embolectomy should be performed. He advises amputation if there is no adequate circulation. Early operation leads to reduction in mortality.

Harbitz[5] concentrates his observations on thrombo-embolism following hernia operations. He states that there is no essential difference in the frequency of thrombo-embolism in the two sexes. The side on which the operation is performed plays no part in regard to the location of the thrombus. In nonincarcerated inguinal hernias, the incidence of thrombo-embolism is relatively high in the lower age groups. Femoral hernias appear to be a group especially predisposed to thrombo-embolic complications. The mortality rate was high whenever a thrombo-embolus occurred following an operation for inguinal or femoral hernia.

PROPHYLAXIS

Deep breathing, leg and arm exercises, and frequent changing of the patient's position in bed, are measures supposed to be beneficial in the prevention of phlebitis, thrombosis and embolism. The advocates of early ambulation following an operation claim that there is less likelihood of these complications being engrafted on an abdominal operation. Experience has shown, however, that such phenomena occur notwithstanding all measures used to prevent these catastrophies in the blood vessels.

Huber[6] states that the unusually large number of cases of thrombosis following amputation of the breasts suggests that early rising following operation may not be a good prophylactic measure. The majority of these patients were up on the day after the operation.

The use of heparin and dicumarol as prophylactics in the prevention of thrombosis and embolism is not a logical procedure. It is impossible to prophesy the incidence of these complications in any operative patient. Lengthening of the coagulation time has led to inordinate loss of blood, necessitating blood transfusions and other supportive measures.

The discovery of heparin by Howell in 1918 opened a new era in the treatment of thrombosis of the blood vessels. Murray[7] reports that in 440 patients treated with heparin, thrombosis and embolism did not occur. Considerable improvement was derived with its use in patients suffering from thrombophlebitis and pulmonary embolism. Embolectomies were successful in twelve cases when heparin was used. He also suggested that heparin is an important agent for the prevention of thrombosis when operation for the repair of blood vessels is to be undertaken.

Ligation of the femoral veins to prevent pulmonary embolism preceding an operation is also a radical procedure not entirely without its dangers. In the hands of a competent surgeon, this is a comparatively easy procedure performed under local anesthesia. Ligation of the inferior vena cava is an operation of considerable magnitude, it should not be contemplated except under the most exacting circumstances Allen, Linton and Donaldson[8] claim that bilateral femoral vein interruption is a safe procedure, which will prevent massive pulmonary embolism In one of our reported cases, pulmonary embolism did occur following bilateral ligation of the femoral veins We advocate femoral vein ligation as a prophylactic measure for a few selected patients of advanced age They (Allen, Linton and Donaldson) report 464 cases on whom femoral vein ligatiton was performed without a single death

Payr,[9] in 1930, noticed an increase in the number of cases of thrombo embolism He advocated ligature of the vein above the thrombus and ligation of the femoral or iliac veins for prevention of pulmonary embolism As early as 1938, Lawen[10] advocated ligation of the femoral and even the iliac veins to prevent pulmonary embolism

ILLUSTRATIVE CASES

Case 2 M B R Ligation of femoral veins was performed for the prevention of pulmonary embolism One attack occurred after ligation

Patient was a female thirty eight years old referred by Harry F Weber, M D She was admitted July 23 1945 to the Jewish Hospital and discharged September 9 Her chief complaint was an umbilical hernia which she had noticed seven months before admission to the hospital The hernia was incarcerated Menstruation had always been irregular and she complained of leucorrhea She had two children The last child was born sixteen months ago Physical examination revealed an extremely obese female weighing around two hundred and fifty pounds Her abdomen the folds of which hung over the sides of the operating table was huge

Laboratory Reports July 23 URINE EXAMINATION React acid Sp G 1 017 Alb neg Sugar neg, Ac neg W B C 6–8 Ep 6–8 REPORT Hb 14 gm R B C 4 9 W B C 9,500 Seg 74 St 62 fil 12 n f Ly 21, Mono 5 (August 4) Prothrombin time 88 per cent *(August 8) Prothrombin time 35 per cent* (August 9), Prothrombin time 19 per cent (August 13) Prothrombin time 82 per cent icterus index 20 blood sugar 89

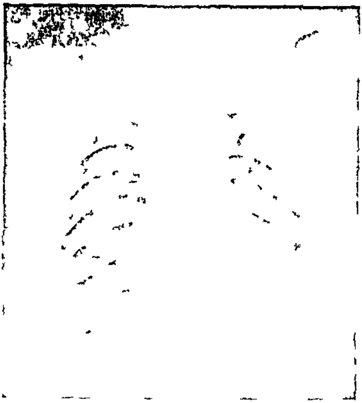

Fig 3 *Case 2* Bilateral basal pulmonary infarction following an operation for umbilical hernia

X *Ray Report* Sept 1, 1 Chest The right diaphragm is normally arched The left is not definitely seen The heart is normal in shape and configuration The upper lobes are normally ventilated The right lower lobe shows an irregular area of density originating near the cardiodiaphragmatic angle and radiating toward the lung periphery A few striated shadows are noted above the area of density The left lobe shows an irregular area of haziness as well as a partial obliteration of the costophrenic sulcus

Conclusion Bilateral basal pulmonary infarction (Fig 3)

Electrocardiographic Diagnosis Sept 1, Simple tachycardia (120) The T waves indicate myocardial damage

On July 2[illegible] under spinal anesthesia the hernia was repaired Five days after opera tion the clips were removed. The wound apparently healed by first intention.

On August 2, at 8 P.M. the patient complained of chest pains and spitting of blood. She was found in very poor condition, perspiring and apparently dyspneic. There was no cyanosis but respirations were rapid. She complained of some obstruction to breathing. Examination revealed the blood pressure to be $\frac{70}{50}$ with a weak rapid pulse. Heart sounds were faint and rapid.

On August 3, at 4 A.M. the patient was in profound shock. She was pronounced "critical," placed in an oxygen tent and given *plasma*, *papaverine* and caffeine. Heparin was also given. By noon of the same day the patient had rallied somewhat, and her color was less dusky but there was still cyanosis. Dicumarol was added to the heparin. At 4 P.M. her temperature rose to 104°. Heart action was rapid and sounds were weak. Penicillin in 30,000 units every three hours was administered.

On August 6, the prothrombin time was 24 per cent and the dicumarol was stopped.

August 10, second attack of pulmonary embolism. The patient had exactly the same symptoms as in the first attack eight days previously. Heparin and dicumarol were renewed. Coramine and 500 c.c.'s of plasma were given.

August 27, third attack of pulmonary embolism. Symptoms and treatment were exactly the same as in the previous attacks.

On August 28, under local anesthesia, a bilateral femoral ligation was performed. The right common femoral vein and the left superficial femoral vein were ligated.

September 2, fourth attack of pulmonary embolism. It will be noted that this followed the operation for ligation of the veins on August 28. After this attack the patient made an uneventful recovery and was discharged from the hospital on September 9.

Comment: It has been stated in the literature that obese patients are more prone to attacks of pulmonary embolism than those of normal weight. But this case is particularly interesting because the ligation of the femoral veins was performed for the purpose of preventing further attacks of pulmonary embolism, of which she had had three, following an operation for an incarcerated umbilical hernia. Even after the ligation of the femoral veins, she had another attack of pulmonary embolism from which she recovered. A follow-up shows that this patient is now (Dec. 1945) enjoying good health.

Case 3: A.A.—Prophylactic ligation of femoral veins was performed prior to a one-stage colon resection and end-to-end anastomosis. The patient was sixty-five years old, female, and was admitted June 25, 1945 to the Mt. Sinai Hospital on the service of A. I. Rubenstone, M.D. She was discharged October 30. She complained of weakness, fatigue and the loss of twenty pounds in weight. About three months before admission, she had had an episode of diarrhea for ten days. There was no blood in the stools. A physical examination revealed nothing of any importance, except that in palpating the abdomen, a mass could be felt in the lower left quadrant. The diagnosis at this time was carcinoma of the sigmoid and descending colon: this was confirmed by roentgenogram.

I first saw this patient in consultation on July 13, when she was suffering from an acute thrombophlebitis of the left leg. Rest in bed and elevation of the leg were advised until the inflammation subsided, before any abdominal operation could be performed. Ligation of the femoral veins was advised first, before the resection of the colon.

Operations: On October 1, a bilateral ligation of the femoral veins was performed. On October 8, the sigmoid, descending colon, and a portion of the transverse colon were resected and an end-to-end anastomosis performed. There was nothing unusual following convalescence from these two operations.

The admission laboratory report was as follows: URINE EXAMINATION: June 25—Reac.—acid, Sp. G. 1026, no sugar, trace of albumen, urates and epithelium. Blood count June 25—5.8 gms. 40 per cent, R.B.C. 2,920, W.B.C. 10,000, Polys. 80, Ly. 18, Mono. 2. June 26, blood sugar 197. June 27, blood urea nitrogen 14.0 mg. per cent.

Comment: This patient was admitted with symptoms of carcinoma of the sigmoid and descending colon, which was confirmed by the physical examination and roentgenograms While she was in the hospital, she developed an acute thrombophlebitis At that time we advised against any abdominal operation until the inflammation subsided Furthermore it was stated that no abdominal operation should be done until a bilateral ligation of the femoral veins was performed This was accordingly carried out and one week later the abdominal operation was done The carcinoma of the colon was resected, followed by end to end anastomosis A normal convalescence followed

TREATMENT

There is a wide difference of opinion concerning the treatment of phlebitis, thrombosis and embolism The so called medical aspect with the use of heparin and dicumarol must receive consideration Ligation of veins, such as the femoral and inferior vena cava, is not without danger Ligation of the inferior vene cava for instance, is a serious matter Single or double ligation of the femoral vein is not quite so dangerous, but still there have been fatalities following this operation Pulmonary embolism may follow even ligation of *these veins*

Phlebitis, thrombosis and embolism may be considered medical as well as surgical diseases The incidence of pulmonary embolism following operations varies in the experience of individual surgeons In my experience it is of comparatively rare occurrence Coronary thrombosis, which we will not discuss here and which has taken toll of many of the younger generation, must be considered purely a medical problem Pulmonary embolism has interest divided between both physician and surgeon It may occur in the course of any medical condition, it may follow any type of surgical operation It is a catastrophic accident, usually ending in the death of the patient A few, however, have recovered, with or without treatment

Medical treatment by means of heparin, dicumarol and papaverine is well known Priestley and Barker[11] discuss particularly the use of heparin in the prevention of postoperative thrombosis and embolism They prefer the continuous drip method to intermittent injections of heparin In their *experience*, approximately six per cent of deaths resulting from pulmonary embolism follow operations The majority of all thrombo embolic phenomena occur within the first two weeks after operation One half of the patients who experience pulmonary embolism have a single non fatal embolus, one quarter have a single fatal embolist, and the remaining one quarter have multiple emboli, which, in approximately sixty per cent of cases, are followed by fatal embolism They claim the proper use of heparin *should prevent one third of the deaths which now occur from post* operative pulmonary embolism

SUMMARY

There is a reawakening of the profession concerning the subject of phlebitis, embolism and thrombosis It is now realized that it is not the benign pathological incident we once thought The many papers that have been written on the subject in the past five years, make one take greater cognizance of this complication following surgical procedures While many patients survive, many also die as a result of an embolus or thrombus lodged in some vital organ

In conclusion

1 The conditions discussed in this paper may have serious consequences

2 Embolism and thrombosis may affect both the arterial and venous systems

3 Exercises and early ambulation

after operation have not prevented these complications.

4. Ligation of the femoral veins to prevent pulmonary embolism is reviewed.

5. The question of heparin and dicumarol preoperatively versus ligation of the femoral veins is discussed.

6. Ligation of the femoral veins may be performed with inpunity when necessary, because no untoward symptoms have resulted from this procedure.

RÉSUMÉ

Les sujets phlébite, embolie et thrombose attirent un renouveau d’attention du corps médical. Ce ne sont pas; comme on a cru dans le temps passé, des lésions bénignes. Durant les dernières cinq années, beaucoup de communications ont paru sur ces sujets. Quoique beaucoup de malades survivent, neamnoins beaucoup meurent d’embolie ou de thrombose située dans quelque organe vital.

L’embolisme, et la thrombose peuvent attaquer les systèmes artériel ou veneux. Les exercises et l’ambulation prècoce post-opératoires ne préviennent pas ces complications.

L’auteur passe en revue la ligature des veines fémorales pour prévenir l’embolisme pulmonaire et duo dicumérol. La ligature fémerale n’entraîne aucun symptôme défavorable.

RESUMEN

La profesión presta una atención renovada a la flebitis, embolia y trombosis. Ahora se da cuenta que no es el benigno caso patológico que se creía. En lo mucho que sobre estos asuntos se ha escrito en los últimos cinco años, se llega a un conocimiento mayor de las complicaciones que siguen a una intervención quirúrgica. Aunque muchos pacientes sanan totalmente, otros muchos mueren como consecuencia de un émbolo o un trombo alojado en algún órgano vital.

Las condiciones discutidas en este artículo pueden tener graves consecuencias. La embolia y la trombosis pueden afectar tanto al sistema arterial como al venoso. Los ejercicios y el hacer caminar al paciente poco después de la operación no han evitado estas complicaciones.

Se estudia también el asunto de ligar las venas femorales para evitar la embolia pulmonar. Compara el uso pre operatorio de la heparina y el dicumarol con el sistema de las ligaduras de las venas femorales; las ligaduras pueden efectuarse sin preocupación cuando sea necesario, ya que no se ha observado ningún síntoma adverso resultante de este procedimiento.

Свод

Наблюдается пробуждение профессионального интереса в предмете флебита, эмболизма и тромбоза. Мы теперь сознаем, что это не такой доброкачественный патологический инцидент, как мы когдато думали. Большое количество литературы по этому предмету за последние пять лет заставляют нас приписать более серьезное значение этому послеоперативному осложнению.

Условия обсужденные в этой статье могут иметь серьезные последствия. Эмболизм и тромбоз могут повлиять, как и на артериальную, так и на венозную систему. Упражнения и ранняя послеоперативная амбуляция не предохранили от этого осложнения.

Обозрена лигация бедренных вен; обсуждено применение гепарина и dicumarol’a по сравнению с лигацией; лигация может быть произведена безнаказанно, когда нужно, так как никаких нежелательных симптомов этой мерой произведено не было.

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Some Items on the Treatment of Urethral Strictures:

A Simplified Operative Method for Impassable Strictures

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Generally two methods of treatment of urethral strictures are available, gradual dilatation and surgery. The first way is perhaps the oldest urological instrumental treatment and has only changed, if at all, in the appliances used. The earliest attempts to deal with urethral strictures are recorded in Hindu writings dating from about the sixth century B.C. Susruta describes in the Ayurveda the treatment of urethral stricture by graduated dilatation by wood or metal instruments.

This intermittent treatment by means of dilatation obviates, in the majority of instances, an operation, provided the necessary patience on the part of both patient and urologist is exercised. It has to be borne in mind that the success of dilatation depends less on the mechanical stretching, than on the amount of resorption of scar tissue.

That is why we are using, in the last two decades, the interrupted dilatation, only in uncomplicated "benign" strictures with a good response to this kind of treatment. In the cases of "resilient" strictures we believe the best treatment is that by indwelling catheter. Already in the 18th century Dupuytren used an indwelling catheter or bougie and called this method "Vital dilatation." In this way the dilatation is produced slowly due to a continuous, gradually increasing pressure. The efficacy is enhanced by the constant presence of a foreign body. The latter leads, by its continuous contact with the urethral mucosa, to some hyperemia and edema of the strictured area in the first day. This condition subsides and an enormous softening and resorption of the scar tissues takes place, a fibrolysis changes its anatomical structure and we are usually able, in about a week's time, to increase the dilatation from a filiform bougie to a catheter of 16 to 18 F gauge, but it would be wrong to stop the treatment at this stage. On the contrary, the retained catheter is kept at least for another week. In pursuance of the loosening of the stricture, its eccentric or spiral form subsides gradually and a concentric urethra is moulded around the inlying catheter.

Of course it remains a kind of cicatrix. "once a stricture, always a stricture" is an old surgical axiom. However the normal shrinking tendency will only occur in a minor degree. We are able to control this process in an exact and evident manner by urethrography. This method must be used in every case of urethral stricture before deciding the kind of treatment, conservative or surgical. Only an exact and clear diagnosis in the case of stricture will guarantee the proper indication and choice of successful therapy, e.g. small periurethral abscesses will be recognized as the cause of a recurrent stricture.

If we have come to the conclusion that conservative treatment will lead to a poor result, if all our efforts to remedy by general management are fruitless, or complications appear, then there are three classic operations at our disposal.

1. *External Urethrotomy*

In the tenth century Rhazes of Baghdad performed some sort of external urethrotomy. In 1730, a successful external urethrotomy was recorded by

Ledran, and the principle of urinary diversion recognized. In 1765, Hunter performed the urethrotomia externa by opening the dilated urethra behind the stricture and passing a bougie along the anterior urethra. He pierced the intervening scar tissue and fixed a catheter.

The external urethrotomy remained for a long time a common operation in strictures of the bulbo-membranous junction of the urethra; but often a suprapubic cystostomy became necessary in order to find the central end of the urethra "retrograde." That is why some urologists routinely perform preliminary suprepubic cystostomy. The difficulties of the urethrotomia externa without cystostomy are still further increased if we are operating on multiple strictures.

2. *Excision of the Strictures.*

This operation dates back to 1812, and was popularized towards the end of the nineteenth century. The frequent failures were only improved after the preliminary cystostomy recommended by Legueu. It should be remembered that a kind of plastic operation is performed in an area nearly always infected, and that the operation is generally followed by extensive adhesions. This operation is done by some urologists for short indurated strictures in the bulbo-membranous part of the urethra, sometimes connected with an urethral fistula.

3. *Urethrotomia Interna.*

Specimens of urethral instruments belonging to the Roman culture towards the last century B.C. and probably used for a sort of internal urethrotomy have been found in France. This procedure was for a long time forgotten and reappeared in France when this operation became established by Civiale in the nineteenth century. The urethrotomia interna is only possible in the absence of septic conditions. On the other hand, the value of this operation is much discussed and for a long time was condemned by some surgeons (H. Fenwick, Rubritius, etc.), and considered as "obsolete" by Eisendrahl and Rolnick. This procedure recently achieved a sort of renaissance, especially in connection with the use of preliminary cystostomy: this latter safeguard will always be necessary in:

i. emergency cases of retention with impossibility of passing any instrument;

ii. strictures complicated by periurethral abscesses or fistulae;

iii. debilitated patients with signs of urosepsis.

Even in impassable strictures without the above complications, the cystostomy has the following advantages:

i. sometimes it is possible to pass a sound retrograde.

ii. control of potential concomitant pathological conditions at the neck of the bladder.

iii. due to the decongestant effect of the cystostomy, a formerly impassable stricture becomes passable after some days and a bougie may be introduced.

In the *Lancet*, Jan., 1921, W. F. Foster described the following way of retrograde catheterization. He introduces two metal catheters: one through the external orifice, and the other one through the internal meatus of the urethra. He then tries by pushing both towards the stricture to bring the tips of both catheters into contact. Kroiss (Vienna) in 1929 had the idea of replacing the retrograde catheter by the index finger in order to avoid injury of the adjacent rectum. He mentions the difficulties in fixing the rubber catheter to the tip of the metal sound, also those in withdrawing the connected catheter through the scar area. The catheter is sometimes stripped and several attempts may have to be made

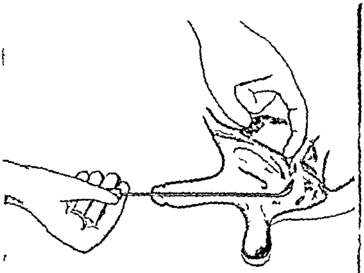

Fig 1 Lithotrite arrested by strictured area Index finger of left hand introduced in posterior urethra

I have made use for some time of the following method in cases of impassable stricture A small suprapubic cystostomy is performed using peridural anesthesia The index finger of the left hand is introduced into the posterior urethra The right hand brings a small lithotrite (French gauge 0) through the external orifice into the urethra until it is arrested by the strictured area (fig 1) By lowering the handle [illegible] the lithotrite the scar tissue is uplifted by the tip of the instrument, at the same time the index finger is pressed against the beak of the instrument [illegible] some coordinated boring movements [illegible] such a manner that the int[illegible]ng scar tissue is compressed som[illegible]t in an accordion fashion In a [illegible] stricture one or two rotating mo[illegible]nts of the finger are sufficient to m[illegible] contact with the beak of the lit[illegible] (fig 2) In this maneuver the co[illegible]ped tip and the furrow on th[illegible] of the lithotrite are of great as[illegible] Now with the guidance of the [illegible]nger, the instrument is directed int[illegible] bladder We have now only to open the lithotrite to make the end of a catheter 15 or 16 F envelop the female jaw up to its heel, and by closing the instrument the catheter is firmly grasped (fig 3) No fixation by ligature or other means is necessary We do not run the risk of stripping the catheter while passing the strictured area The catheter (Nelaton or *Pezzer*) remains for 12 to 14 days as an indwelling catheter according to the above mentioned general principles for treatment of urethral strictures

This simplified method is especially useful in those cases where the general condition of the patient with impassable stricture does not allow more than a simple suprapubic cystostomy as a preliminary operation In the second stage the excision of the wound is not necessary, and only sometimes a small enlargement of the latter is required, because this method allows a "blind" procedure which is practicable

This operation has, in my opinion, a special value in cases of Bilharzia strictures of the urethra, for they are usually situated in the prostatic urethra and concomitant with Bilharziasis of the bladder

The method was performed in 15 cases of impassable strictures (traumatic, inflammatory and Bilharzia), the postoperative course was generally uneventful and the results very satisfactory

SUMMARY

Following a brief historical review, the author outlines three classic operations for the relief of strictures of the urethra which have proven resistant to conservative methods of treatment He then describes a procedure which he himself has used with success on a series of fifteen cases of impassable stricture (traumatic, inflammatory and Bilharzia)

RÉSUMÉ

Après une revue historique très brève, l'auteur nous décrit trois opérations classiques pour les rétrécissement de l'urèthre. Ces trois opérations n'ont pas été remplacés par les méthodes de traitement conservatrices. La méthods qu'il a employée dans une série de quinze câs de rétrécissement infranchissable de urèthre est décrite en detail (traumatique, inflammatoire et Bilharzie).

RESUMEN

Siguiendo un breve resúmen histórico, el autor pone de relieve tres operaciones clásicas para aliviar la estrechez uretral que ha resistido el tratamiento de los métodos conservadores. Describe el procedimiento que él mismo usó con éxito en una serie de quince casos de estrechez insuperable (traumática, inflamatoria y bilharziana).

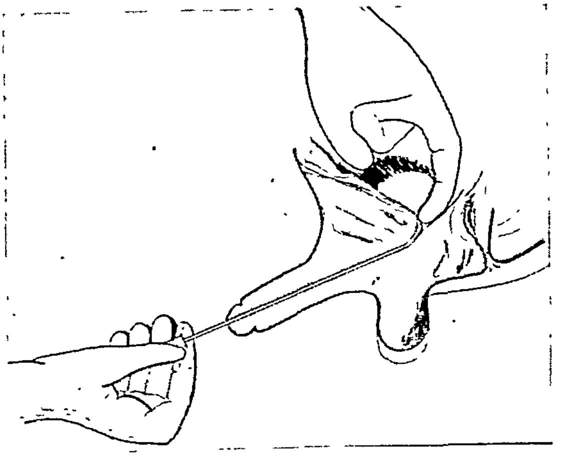

Fig. 2. By lowering handle of lithotrite, stricture is lifted. Index finger is pressed against beak of instrument.

Свод

После исторического обзора автор описывает три классические операции для такой стриктуры мочеиспускательного канала, которая не поддается консервативным способам лечения. Затем он описывает способ, который он успешно применил в 15 случаях непроходимой стриктуры (травматической, воспалительной и при биларзите).

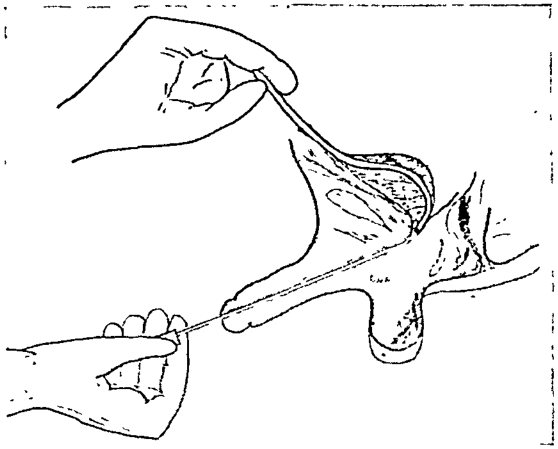

Fig. 3. End of catheter envelops female jaw of lithotrite; by closing instrument, catheter is firmly grasped.

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Editorials

Yesterday and Today

OUT of a vision and a purpose, eleven years ago, the International College of Surgeons was conceived and launched on its universal journey, to bring together in collaboration and brotherhood able proponents of the surgical art and science in all parts of the world, to safeguard the progress of specialization perpetuated for the benefit of mankind and for the encouragement and training of young surgeons.

The founders of this organization were gifted with the vision and the purpose which elaborated the unlimited and far reaching formula to organize something that never before had come into existence, for, while international surgical societies have gathered from time to time, the International College of Surgeons does not duplicate or conflict with any College, Association or Surgical Society in existence, since its required qualifications and objectives are primarily and preeminently international and universal, in order to attain the ideals of collaboration of the genius and talent inherent in all nationalities and peoples.

The past thirty two years have witnessed the almost complete collapse of civilization in the ravages of two world wars, through their destructive forces we can discern a world wide effort to organize politically, scientifically and socially towards better international understanding. The bitter lessons of these destructive conflicts, which we have endured for thirty two years, have nevertheless brought advancement in the sciences, we are doubtless better prepared to cope with the demands of present and future generations than ever before in our history.

It is sad but true to realize at this moment that while the aggressive ‘or shooting war” throughout the world is over, or has ceased under command, yet the dove of peace is not with us, harsh as it may seem, today there is nothing less popular in the heart of mankind than peace. Even as grotesque as this assertion may seem, yet the fact remains that all negotiations and efforts for a peace seem to meet with little enthusiasm. The painfulness of the recollections of the horrors of the war and the pledges that it would never occur again seem to dim into insignificance against an inherent and devastating individual and national selfishness.

The starvation which follows the sanguinary destruction is none the less a demonstration of the great calamity we have endured and the far distant horizon for a virtual relief of the worldly chaos. Yet through all these facts and fancies, we see in the past thirty two years a longing for international understanding and cooperation, however fruitless have been the efforts spent in this quest. The dominant need of humankind for better understanding and cooperation has never existed and never been felt as it is today, it is in this rôle, medically speaking, that surgery, through the creation and expansion of the International College of Surgeons is revealed and inspired.

To the handful of able, loyal, unselfish founders of this organization, the International College of Surgeons, we are forever indebted. The vision, the purposes, the abnegation and devotion, sparing no personal or pecuniary sacrifice, have weathered all discouragement and opposition and witness daily the unconquerable progress, benefit and brilliant future assured by the International College of Surgeons. The guarantee of efficiency, ethics and Fellowships, the encouragement, education and training for the members and aspirants to the ideals and benefits to be derived from the efforts not only of the great founders of the organization but of the very many and able colleagues who are crowding around the original group demonstrate appreciation of the ideals and objectives of our organization.

Basically, the International College of Surgeons is a non-profit organization. To the small group of pioneers and founders we now bow and shall bow eternally in honor and appreciation of their efforts. Of great moment and concern to us all, in our early efforts, were the handicaps naturally brought about by the second World War, not only during its European and Far Eastern phases, but more especially at the close of 1941, when we in America were also forced to defend our rights, our democracy and our way of life. The military urgencies for increased power and efficiency, as well as for transportation within our own land, naturally came first. The continuance of our annual meetings, destined to maintain not only our contacts but the evolution of our program of national and international connections, became more and more, day by day, a problem threatening to set aside all of our efforts.

How to coöperate in the war effort, in the service of our nation and of humanity acutely strained our plans for the very many local and national, as well as International contacts, but with stout hearts and broad minds we aimed to maintain all-out war efforts at all cost and also to carry on the educational and basic objectives of the College by the national Guilds throughout the United States. These meetings, held from time to time, gave evidence of the interest of our growing membership and awakened unthought-of possibilities for the perpetuation of the academic and educational principles safeguarded by the College.

The test came however, when our annual Assemblies were planned and when the International conventions bi-annually strained our imagination and resources in order to comply with the constitutional set-up of our College. Right within our own membership, the stoutest opposition was developed by the wisest of our councellors who, with the very best of intentions, feared the handicaps of transportation, hotel accommodations, and the like, and discouraged our meetings. Providentially, however, we risked and won, for not once have we failed in the past eleven years to assemble nationally and internationally, as the occasion required, with results that were reassuring us to the wisdom of our resolutions, as shown by the brilliant results obtained at each and every meeting.

The objects and purposes of the International College of Surgeons, as its charter recites, are, "To gather together eminent surgeons of each nation, every state and dominion in the world, into one great organization, with the thought in view that the personal exchange of views of the leaders in surgery will do much to advance the science of surgery and also promote a better understanding between those who, in every country, are working for the good of humanity."

It is not only an ideal but a firm determination of the founders of the International College of Surgeons to keep up the standards of membership, requiring of new members that they be seasoned surgeons and that they aid younger men in every possible manner

All aspirants to membership in our College must of course be *internationally minded* to meet the urge of higher aims in our organization as it reaches out to embrace advances in surgery throughout the world and by being essentially and unconditionally democratic in principle and practice, *it must recognize ability, character and reputation in the surgeons of every land*

The International College of Surgeons requires, and will have, a home and an International Library, which will house contributions from all parts of the globe in the progress of surgical experience, and administrative offices for the efficient discharge of its vast responsibilities It will be the home of the College and of its Chapters throughout the world, as well as the fountain head for unlimited developments, with publicity through its journal, the "Journal of the International College of Surgeons" which, so ably edited, has already demonstrated its value as the watch tower of cultural influence and the search light for dissemination of information and ethical propaganda

As a teaching organization, the Library shall possess the last word, authoritatively spoken, from all sources of investigation and research, as a guide and reference in all leading languages of the civilized world In fact, the Library of the International College of Surgeons should shelter the written records of ancient as well as modern experience, a veritable *Serapium* or Museum of our science

The wanton damage to the Hunterian Museum of the Royal College of Surgeons building in the late war, causing irreparable loss, was felt deeply by the scientific world, arousing our brotherhood to protest and indignation, and to aid in its restoration by generous gifts, the International College of Surgeons lost no time in doing its share, officially and by inviting the individual Fellowships to exercise their good will and financial help, thus *appropriately expressing the warm sentiment and respect existing among surgeons* of the English speaking world

The Secretariat is a veritable beehive and marvel of single handed accomplishments and dynamic force which has done more for the conception, organization and actual success of the College than any other factor or factors, it being just and permissible to recognize in this a superlative personality, capable of extraordinary executive action and vast resourcefulness The past, the present and the future owes this office candid acknowledgement for boundless achievements

To meet the needs of our rapidly growing Junior membership, basic training facilities have been and are being utilized wherever and whenever possible for surgical residencies in accredited hospitals, and by Guilds, meeting regionally, under the interested and vigilant supervision of the Regents in the twenty one districts which comprise the organization and set up of the United States Chapter, have safeguarded and stimulated the high standards of membership required by the College Thus the Board of Regents bears the burden and responsibility of the educational activities of the College, reinforced by the scrutiny of the Chapter Council for approval and for final recommendation to the Board of Trustees

This scheme of organization, thus far, meets our actual needs [illegible] demands, though we are alert to the wisdom of decentralization and of a system of checks and balances; for that purpose a special Committee has now under study a recommendation of the Boards of Examiners for candidates, as required by the Constitution and By-laws.

A suitable summary of the accomplishments of the International College of Surgeons in the past eleven years might be concisely the following:

1. The steady growth in the membership of the College from year to year, as revealed at each annual Assembly and Convocation, and the outstanding contributions to science and to surgery in particular, as vouched for and publicized by its JOURNAL.

2. The growth of foreign Chapters of the College throughout the world and the representation of the College by surgeons of distinction and reputation in countries where Chapters are under consideration. The enthusiasm existing in our European membership, notwithstanding the isolating and retarding influences resulting from war. In our western hemisphere, the Americas give inspiring proof of the soundness of Latin American solidarity and the pattern of our United States Chapter will grow effective by the existing collaboration, as demonstrated by the International Assembly in the City of Mexico in 1941 and at the International Assembly at Lima, Peru, in March, 1946, when the delegates of the International College were the guests of the national governments of Mexico and Peru.

3. The Convocations held in Florida in 1940, in Denver in 1942, in New York in 1943 and in Philadelphia in 1944, when, notwithstanding the difficulties of transportation and hotel reservations, coupled with almost mandatory discouragement by war priorities they were, nevertheless, signal successes as scientific contributions to the all-out war effort in defense of our liberties.

4. With our membership mounting and applications literally pouring into the Chapter's Business Office and the Secretariat of the International College, we are ever mindful of the success of our cause, purpose and ideals; with renewed vigor and prospects we look proudly on the past of our history and confidently on the future which lies before us.

DÉSIDERIO ROMÁN

En Avant!

THE International College of Surgeons was founded in Geneva, Switzerland in 1935, for the purpose of exchanging ideas and methods on scientific surgical subjects among competent surgeons throughout the world. In 1940, the College was chartered in Washington, D. C. and the United States Chapter, already a living, flourishing organization, began its march of progress to become one of the foremost surgical bodies of the world. The College is represented in twenty-seven countries and the membership in the United States Chapter alone is now nearing two thousand surgeons.

The call of the profession today is for leadership, intrepid and vocal for men who have the courage of their convictions to speak in defense of the ideology of our profession.

This has well been called the age of science. We are promised much for tomorrow as the result of the tremendous advances during the past decade Our ideals of scientific attainment never shall supplant the power of human kindness and human understanding for the neo gods of so called efficiency, nor shall we tolerate a charlatan leadership which would compromise the ideals of a scientific surgical organization to achieve a given constructive gain and which would then by appeasement surrender that gain

The true character of a nation stems from its people The true character of a surgeon stems from his heritage, his training, his integrity, his conscience As a College we shall achieve such leadership as we deserve If strong and aggressive in constructive thought and action, we shall keep faith with the yearning demand for international solidarity and friendship If weak and selfish in sharing our achievements of science with our war torn colleagues of other lands, ours shall become the vacillating symbol of pseudo conception, an insecure foundation to uphold a structure of drifting decadence which we do not propose to encourage

The surgeons of the world now turn to the profession in the Americas for professional guidance and assistance Shall we fail them?

It is to be hoped that the science and art of surgery shall continue to progress with other scientific endeavors and that we never shall wilfully harbor a method of procedure which might be helpful to our confreres in other lands

We as surgeons, members of an international organization, are interested in a government where the people's voice is supreme, where liberality of free speech and the open forum are recognized where no power or combination of powers ever shall be able to shackle the progress of scientific advancement in either of the great empires of earth Surgical advancement has been trampled under the foot of the military dictator and the great hospitals and universities have yielded their enviable positions to the prowess of might with an avowed objective to rule or destroy Science has been diverted from a design of creation to help and to cure to a regrettable trend to retard and destroy This colossal blunder has paid the dividends of poverty, shame, irretrievable position and remorse, and has turned backward the progress of science for many centuries

The International College of Surgeons stands at the threshold of a challenging opportunity for promoting international good will and wholesome cooperative relationship among the medical and surgical fraternities, and among the nations of the world

The daily contact of the physician with his patient brings him in touch with vast numbers of the world's population It is a golden opportunity as well as a medium to spread the message of world amity and cooperation in a quiet but very effective way This powerful force must never be discounted Its potentialities are tremendous and may, with intelligent guidance, become a great constructive force or with a designing sinister leadership, may become equally destructive

The International College of Surgeons is now growing so rapidly that a central office with unified direction of its various activities has become imperative

Surgeons are making inquiries in many languages for abstracts of current literature, and are likewise sending reprints of their own articles to the College We have received definite offers from several surgeons to donate their personal libraries, which to date will aggregate in excess of 6000 volumes

It is proposed that the home and

library shall be the joint home of the International College of Surgeons and of the United States Chapter. The location of the International home may, of course, be changed at the will of the majority of the chapters throughout the world.

The location of such a home and library will be determined by a majority of the membership and the Executive Council together with a recommendation by the Board of Regents.

Finally I foresee for the International College of Surgeons continued growth and expansion wherever surgeons and men of global scope in their thinking are to be found. Neither the world nor the College shall harbor the outmoded isolationist with his subversive and selfish doctrines. We may therefore stand firm on the conviction that the International College of Surgeons has already achieved a place in the surgical world that we can all cherish—and cherishing, strive ever to guard, expand and improve.

HERBERT ACUFF

Early Ambulation

THE art and science of surgery represents the accumulated knowledge of centuries concerning those frailties of mankind which are amenable to treatment with the knife. Because of this hard-gained experience, surgery is not the sort of field in which each new idea is quickly seized upon at the expense of the old and well tried. It is the constant aim of scientific surgeons *to maintain in a fine and delicate balance* the acceptance of new principles and the abandonment of old ideas. When this balance is upset, we have as a result either the erratic and unsound enthusiast, or the stale, outmoded surgeon. In any given era both the ability of at least a segment of our profession to measure accurately, record painstakingly and draw conclusions wisely, and also the intellectual temper of the times play major rôles in determining the extent of progress in that era. Hence, for fourteen hundred years the precepts of the dogmatic and fanciful Galen were challenged by only a handful of men, notably Vesalius, Servetus and Harvey. These men were thought to be heretics because the Galenian system was followed religiously by all others.

Even in 1946 there are many similarities between religious systems and the professions, including medicine. Every profession and religion develops customs, traditions, habits and "window dressings." In time the "window dressings" are likely to be mistaken for the *profession or religion.* This is true of both Christianity and surgery. It is important in either case to distinguish between ultimate objectives and the means to those objectives. In surgery the cure of the patient or the alleviation of suffering is the goal to be attained. The high priests don proper garb. This is not the end, but a means to an end. In the recent past, the preparation of a patient for operation was not unlike preparation for a religious ceremony. The patient was purged with drastic drugs (which produced acute enteritis, itself a pathological condition; and in its wake there followed dehydration and distension of the abdomen with gas). In the operating theater, carbolic and iodoform served as the incense Following the operation, various quantities of intravenous fluids, enemata, opiates and sedatives and prolonged bed rest were prescribed religiously according to widely accepted but dogmatic and empirical principles Probably the most widely accepted and the least questioned principle was that the patient should lie quietly in bed and splint the *operative* site for some time

As early as 1899, Ries[1] introduced into the United States the idea of getting post operative patients out of bed early At that time the principles of antisepsis and anatomical closure of operative incisions were not well understood, eventrations following early ambulation soon led to the abandonment of the procedure While some European surgeons were enthusiastic about their results with early ambulation, the method did not gain general acceptance

It is to Leithauser of Saint Joseph's Mercy Hospital, Detroit, that we owe the revival of early rising and the first generally acceptable scientific study of its consequences Like most investigators with a radical and unconventional idea, he met with resistance on the part of many of his colleagues when first trying to convince them of its virtues It is greatly to his credit that his modest and sincere efforts, prompted by daring and imagination, led to such a strikingly clear and convincing study of his results that the principle has gained widespread interest and many adherents

Every patient who now gets out of bed early after operation, and as a result avoids weakness, abdominal gas pains, constipation, urinary retention or the hazards of atelectasis, pneumonia and pulmonary embolism, owes his freedom from discomfort and, indeed, possibly his life to Leithauser's two original papers[3] and to his motion picture studies

The studies at our Clinic[4] have amply confirmed Leithauser's results Such men as Lester R Dragstedt and Paul W Shafer, of the University of Chicago, have also employed early ambulation with equal success At our clinic in the past three years, no patient getting out of bed within one or two days following operation has succumbed to pulmonary embolism, evisceration or other serious complication We have found that the distressing sequelae following operation, such as gas pains, constipation, weakness and urinary retention, have been eliminated in these patients Intravenous fluids in the average surgical patient have been replaced by oral fluids and food Opiates, sedatives, laxatives, stomach intubations and bladder catheterizations have all but disappeared from our post operative order sheets for the majority of surgical patients Obviously there are definite and clear contraindications to early rising, such as shock, septicemia, phlebitis, and the like, these will always apply to an important minority of surgical patients[4, 5] We have found early ambulation to be just as safe following gastric and colonic resections, thyroidectomies, radical mastectomies vaginal hysterectomies and complicated gallbladder operations as it is following simple appendectomy

The principle of early ambulation has not yet been accepted by all surgeons, but its adherents are growing in number The tradition of prolonged bed rest is not easily overcome and some will cling tenaciously to the needless rituals which comprise "post operative care" in so many patients Those who examine the question on its merits will, I believe, come to discard the old principle for the new With proper mer being honored by the Academy of Sciences of Lyon. A second edition was published in 1786. In this volume he not only mentions the different methods of application of electricity, but classifies diseases into those which are electric and nonelectric. In 1783 appeared Marat's *"Memoires sur L'Electricité Medicale,"* submitted anonymously and honored by the Academy of Rouen, which occasioned the accusations of plagiarism levelled against him. Bertholon's later writings contain several references to the *"falsifications de M. Marat."*[6]

Jose Luis Molinari has pointed out that a comparison of the writings of the two scientists will clearly demonstrate plagiarism on the part of Marat.[7] That Marat was conscious of the accusations of Bertholon and attempted to defend himself against them is evident from a letter dated December 20, 1783, written to Roume de St. Laurent, a letter in which Marat recapitulates the events that have befallen him since his entrance upon a scientific career.[8]

After stating that he has been calumnied, Marat mentions that among the different works on medical electricity which have appeared in various countries, *"that of Abbé Bertholon had achieved first rank.* . . . M. Bertholon had claimed that electricity was a universal remedy. This was not borne out by his experiments." "I presented an essay to the Academy (of Rouen). . . . I thought it my duty to attack all accepted systems, and in particular that of Abbé Bertholon, a member of nine learned societies. . . . This I did anonymously. . . . I learned that my *Memoire* was crowned."

The French Academy refused Marat recognition of his earlier experiments on fire, light and electricity in 1780. Soon after, in 1781, appeared the first edition of Abbé Bertholon's treatise on the medical uses of electricity. It was not until 1782 that Marat perfected his apparatus and gave treatments to a number of patients. It seems that Marat, embittered by the reception given his experiments by the Commissioners of the French Academy, was not averse to borrowing Bertholon's ideas on medical electricity and attempting to ensure for the Spanish Academy "the honor of giving to Europe the true theory of medical electricity."

One of the most valuable instruments known to laryngologists, the laryngoscope, has also one of the most disputed of origins. To whom do we owe it, to Czermak, to Babington or the Spanish singing teacher, Manuel Garcia? Czermak is generally assigned credit for its development, although Turck put forth claims to priority. Fielding Garrison favors the Spanish singing teacher, and Sir Morell Mackenzie, in Clendening's *Source Book of Medical History,*[9] accords Babington the honor. Levret (1743), Bozzini (1804) and Senn (1827) had made experiments in illuminating the body. It was Dr. Benjamin Guy Babington, however, who, in March 1829, exhibited at the Hunterian Society in London, an instrument closely resembling the laryngoscope now in use. In 1837, Liston described a method of exploring the larynx which, however, passed unnoticed. In November 1857, Prof. Czermak of Pesth "borrowed" the little mirrors invented but discarded as useless by Turck, and produced the modern laryngoscope.

Turning to another branch of surgery, the introduction of lithotrity occasioned a bitter dispute as to priority among Leroy d'Etoilles (1822), Civiale (1824) and Heurteloup (1824–31).

As long ago as 1803, there occurred one of the largest scale "steals" in the history of the profession . . . unsuccessful, however, since it was soon followed by an *exposé* which had far reaching effects in a related branch of the science I refer to Guillaume Dupuytren's (1770–1835) attempt to have himself proclaimed the founder of modern pathology in 1803, at the expense of the great French anatomist and physiologist, Marie François Xavier Bichat (1771–1802) Bichat having recently died, had thereby obligingly removed himself as a rival When Bayle undertook to write up the work being done in pathology, Dupuytren demanded that dates of his own work be falsified so as to antedate that of Bichat, as E Robert Wiese pointed out in his carefully documented article on Dupuytren[10] "He demanded that Bayle acknowledge in each of the *Memoirs* spoken of, that the credit for writing thereof really belonged to him (Dupuytren), while, he, himself magnanimously wrote that he had authorized Bayle to publish them The better to efface the anterior dates of Bichat, he produced Bichat's plans and principles in his lectures and palmed them off as his own, at the same time deliberately falsifying the dates of his own work" Laennec informed the Medical School Society of the facts, and the feeling aroused caused both Dupuytren and Laennec to abandon the field of pathology, thus delaying certain investigations in that field for a period of years

Carl Ferdinand von Graefe (1787–1840) of Warsaw is generally acknowledged to have introduced rhinoplasty to the modern surgical profession in 1818,[11] simultaneously with Bunger, although credit for its revival belongs to Joseph Constantine Carpue (1816), who based his work on that of Bianca of Catanea, first mentioned in a manuscript of 1442 Gabriel Fallopius (1523–1562) described the same method in *De Decoratione,* and Gaspar Tagliacozzo (Taliacotius) (1546–1599), professor of anatomy at Bologna, described Bianca's operation in his work published in Venice in 1597 Interest in the method appeared to have died completely until resuscitated by Carpue

Experimental embryology acknowledges Wilhelm Roux (1850–1924)[1] as the father of that science, but Roux's work was based upon the earlier experimentation of Eduard Pfluger (1829–1910) upon the frog's egg

Two outstanding disputes from the field of gynecology and obstetrics are worthy of mention Eugene Koeberle,[13] pioneer in hysterectomy and *morcellement,* who excised the uterus for uterine fibroma (1863), the uterus and adnexa for tumor (1869) and performed the first myomectomy (1878), indulged in much bitter disputation with Jules Pean over priority in the invention and use of the hemostatic forceps

John Braxton Hicks[14] (1825–97) of London is generally recognized as the initiator of *podalic version* by combined internal and external manipulation (1863) Hick's priority has been disputed in favor of Marmaduke Wright, who, however, employed or recommended external handling in cephalic version (1854)

It must be constantly borne in mind by the medical historian that he must be extremely cautious before making any charge of plagiarism against his *confreres,* for it is true that in many instances claims for priority have been put forward without the author's knowing that the same operation has been previously reported

Such was the case in Nathan Smith's claims to the first ovariotomy,[1] which he performed in 1821, and reported in that year, with no knowledge that Ephraim McDowell had preceded him in December 1809, reporting his case in April 1817 Today McDowell is generally given credit for having performed the first ovariotomy

A still more striking example is that of Amos Twitchell,[16] who, in 1843 published in the *New England Quarterly Journal of Medicine and Surgery* a paper on ligation of the common carotid, without being cognizant of the fact that Matthew Baillie (1789), Abernethy (1798), Mr. Fleming, a British naval surgeon (1803), Sir Astley Cooper (1805) and Mason F. Cogswell (1803) had performed the operation before him.

Simultaneously with Edoardo Bassini (1814–1924), William Stewart Halsted (1852–1922) devised the modern operation for hernia, known the world over as the Bassini operation.

The Hartley-Krause operation for *tic douloureux* is justly so named, for Hartley and Krause almost simultaneously devised a method of reaching the Gasserian ganglion by an intracranial route.

In the case of Bryant's operation for cistoid growth, Clairmont[17] reported from von Eiselberg's Clinic, an operation which combined the principles of Bryant's operation and incision.

One of the commonest and most frequently used of all surgical procedures, the McBurney incision in appendectomy, was undoubtedly antedated by L. L. McArthur in this country and Schindler in Europe. Binnie,[18] pointed out in 1921 that McArthur devised and carried out this muscle-splitting procedure in about thirty cases prior to publication of McBurney's method; McBurney was not acquainted with McArthur's work, which he had failed to publish promptly.

To whom shall credit be given for surgical correction of ptosis of the eyelids? DeLapersonne, Angelucci and Greening presented individual operations for the correction of ptosis, employing similar technics.[19] Greening's operation is a modification of De Grandemont's; in turn Galezowski's was a modification of Bowman's operation, which Bowman devised at the suggestion of vonGraefe. De Grandemont's technic was not dissimilar to that of Everbusch.

Robert Proust (1873–1935), who is generally credited with the first perineal prostatectomy, was inspired in his work by Guyon and his pupil Albarran,[20] so that the operation is more correctly known as the Proust-Albarran operation. It must be kept in mind, nevertheless, that Proust visited London to observe the success of Freyer's prostatectomy by way of the bladder, and returned to France to publicize the operation which was to dethrone his own.

Many instances of unintentional or unconscious plagiarism may be cited from the field of abdominal surgery. The urge to leave his name to posterity in connection with an operation is frequently only exceeded by the facility with which the surgeon borrows the work of a predecessor and adopts it for his own.

The Wölfler operation (1881), an anterior gastroenterostomy, was first suggested by Nicoladoni. Posterior gastroenterostomy, known as von Hacker's operation (1885), was based on the earlier work of Courvoisier (1882). The so-called Billroth I operation, first successfully performed in 1881, had been previously attempted—though not successfully—by Péan in 1879, and should more accurately be named the Péan-Billroth operation.[21]

Several instances of unintentional or unconscious adoption of another's operation are worthy of study at greater length. The so-called Mikulicz two-stage resection of the large bowel should more accurately be termed the Paul-Bloch-Mikulicz operation. Moynihan of London first pointed out that F. T. Paul of Liverpool described this operation in the *British Medical Journal* in 1895,[22] in an article entitled "Colectomy" After describing the operation, step by step, Paul stated "The second stage of the operation, that of breaking down the spur with an enterotome, should generally be undertaken about three weeks later" Again in the *British Medical Journal* in 1900,[23] Paul described three additional cases in which this method had been used, these added to the seven cases described in his previous article, bringing the total number of his cases to ten

Further attempts to ascribe priority for this operation brought to light the fact that on Oct 20, 1891, Oscar Bloch read a paper before the Surgical Society of Copenhagen on "Extra abdominal Treatment of Intestinal Cancer (with the exception of the rectum)," in which the same method was described, this paper was published in two sections in the *Nord Medical Arkiv*, 1892 and abstracted in the *Zentralbl f Chir*, in 1892[24]

Also in 1892, Reclus and E Forgue who may not have known of Bloch's work, described two cases of exteriorization of the bowel and division of the mesocolon, followed by immediate resection of the tumor

Mikulicz reported his two stage resection of the large bowel before the Thirty second Congress of German Surgeons in 1902, stating that he had performed this operation since 1898 This report was printed in the *Arch f Klin chir*[25] Surgeons throughout the world have generally credited the operation to Mikulicz, but this is definitely an injustice to Bloch[26] H Hartmann (1904) and Cunet (1914) (a pupil of E Quenu), both described methods of exteriorization of the bowel, but credit for originating this operation belongs unreservedly to Oscar Bloch

Another example is the Polya operation[27] for implantation of the open stomach into the jejunum, which should in all fairness be attributed to Reichel, who first brought it to the attention of the surgical world in 1908 It was not until *three years later* that Polya's description of the operation which bears his name was published

Again, when referring to the operation of tubovalvular gastrostomy, some incline to give credit to Spivack Scrutiny of the literature discloses that in 1929, Spivack wrote an article on a "new operation" which he claimed as his own[28] Yet scientists now dead had described the principles of this operation from *16 to 35* years before Spivack

The literature discloses that a continent valve had been made from mucous membrane of the stomach by L Pemeres in 1893[29]

Pemeres wrote

> A valve composed of mucous membrane fulfills its intended functions when it prevents the escape of gastric juice This has been accomplished for in our cases there has been neither inflammation nor ulceration of the skin which indeed proves our contentions that the gastric juice remained in the stomach and was not able to ecoriate or injure the skin"

It may be mentioned *pari passu* that Edmund and Wyllys Andrews of Northwestern University as far back as 1894, conducted experiments and published an article on "A New Method of Valvular Gastrostomy with a Mucous Membrane Lining"[30] in which they say

> A female dog weighing 45 pounds was subjected to this operation on April 5 1894 There was no leakage of the contents of the soever at f the month, robust kille

May 4, the valve in the stomach was found in good working order."

Spivack did not give a line of credit to those men.

A valve was formed of all the layers of the stomach by Fontan in 1896.[31] He says:

> "I have conceived the idea of performing a valvular operation modifying it from the organic and surgical point of view. In my operation all layers of the stomach form the valve and not the musoca alone; secondly, I make the valve in one sitting in a very simple manner. . . . I can affirm absolutely that no gastric juices escape, following this operation."

Note that the date when the valve was made from all layers of the stomach is 1896, *33 years before Spivack.*

It is, perhaps, well to recall in this connection what Petit de La Villeon[32] said at the meeting of the Society of Surgeons of Paris in 1931:

> "I wish to express to you my gratitude for the honor and tribute paid at the National Academy of Surgery, so justly merited, to Prof. Fontan, the great surgeon and marvelous teacher at the Medical School of Toulon of which I had the great honor of having been a student. You all know Fontan's operation of gastrostomy by means of a valve. I have assisted him in this operation a number of times, and have followed the cases postoperatively. I can assure you that these gastrostomies are continent and that these patients do not walk around with catheters in their abdomens nor any other contrivance.
>
> "They keep their catheters in their pockets and use them only when they feed themselves.
>
> "Use Fontan's method which he discovered and you will assure a continent gastric opening.
>
> "Gentlemen, this opportunity offered me to speak today fills me with emotion and pride to express credit to and recognition to the name of my late lamented master and I appreciate the gesture of this surgical society of Paris Surgeons and the rest of the great French surgical societies who have gathered here to pay homage to the name of Fontan."

So much for the valve!

Dépage, a Belgian, and Janeway, an American, formed a tube from the anterior wall of the stomach lined with mucous membrane to provide a canal leading from the stomach to the skin surface in 1901 and 1913 respectively.[33-35]

Here again we find that the publications of Dépage and Janeway precede Spivack by *16 years, 26 years and 28 years respectively.*

The combination principle, that is, combining two different operations in gastrostomy, was originated by Watsudji[36] in 1894.

Watsudji combined the method of von Hacker with the Fontan technic in an operation stated to be unusually successful *thirty years before Spivack's article appeared.*

Because Spivack made use of the quarter-century-old tube technic of Dépage and Janeway, and the Pénières-Fontan valve, by a combination of the two, the bare facts unreservedly prove that he contributed *nothing* "new" or "personal" where the principles of tubovalvular gastrostomy are concerned.

Spivack rode into the literature in 1929 on a chariot drawn by nine experimental dogs, proclaiming a *"new"* (?) and *"personal"* (?) operation, without having performed it on a single human being living or dead. The Spivack chimera deserves prompt purging from the pages of originality.

Furthermore, it seems degrading to the memory of the pioneers to permit their labors to be camouflaged with the varnish of confusing verbosity, or minor changes here and there, thus foisting a "new operation" upon the surgical profession. However, there is comfort in the thought that surgical records defy the teeth of time and eventually and inexorably destroy the ambitions of those who falsely claim originality.

What then can we do to discourage such deliberate surgical plagiarists and medico-literary pirates? Great care has been taken to "quote chapter and verse" in the preceding examples, because it is peculiarly the duty of contemporaries to clear up questionable claims of this kind. Frequent reiteration of a claim, no matter how false, may lead others carelessly to accept and repeat, until at a later time the matter may remain confused. Even Hitler knew this! It is also high time that attention be given, not only to the cure or extirpation of crimes and errors committed, but to prophylaxis. I propose, therefore, that:

1. The Oath of Hippocrates be amended by incorporating the admonition of Augustus Toplady, to wit:

> "Keep your hands from literary pilfering and stealing. But if you cannot refrain from this kind of stealth, abstain from murdering what you steal";

2. Prompt attention of the profession be called to attempts at surgical plagiarism and the culprit be unmasked;

3. Advantage be taken of the functions of the Board of Documentation of Surgical Priorities of the International College of Surgeons, now in the process of formation, to establish priorities of surgical procedures and instruments; and

4. The need of a thorough search of the literature before we permit ourselves to record as *new* any surgical procedure, be stressed and restated on every occasion.

SUMMARY

1. Instances are cited from medical literature of both unconscious and deliberate plagiarism.

2. It is well to remember that, before an attempt is made to describe a new operation, a painstaking and thorough search of the literature should be made.

3. Examples of attempts to appropriate credit for new operations are cited.

MAX THOREK

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que están a la vista. No obstante, las reparaciones plásticas internas pueden ser igualmente necesarias al organismo y aún en ciertos casos al bienestar mental del individuo.

El autor cita muchos casos de su propia experiencia y de la de sus colegas en curas de condiciones, al parecer, muy divergente respecto a la causa y lococión (por ejemplo, las protuberancias del pecho diagnosticadas erróneamente como carcinoma) mediante una reparación plástica relativamente sencilla dentro de las cavidades abdominal y pélvicas. Las ilustraciones de las casos en que intervino personalmente fueron dibujada en la propia sala de operaciones

Свод

Обыкновенно думают, что пластика предпринимается только для косметических или экономических целей и, что ее применение ограничено видными частями тела. А между тем, внутренняя пластика может быть так же или более необходима для физического и даже, в некоторых случаях, умственного здоровья.

Автор приводит многочисленные случаи из своего опыта и опыта его коллег, демонстрирующие вылечивание условий, кажущимися очень далекими по причине и локализации (напр. грудные массы ошибочно диагностированные как рак), сравнительно простой пластикой внутри брюшной или тазовой области. Иллюстрации его случаев были нарисованы в операционной.

A Late Effect of Radiotherapy upon the Intestine

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TWO cases are reported herewith in which, following deep radiotherapy to the abdominal cavity, there were unusual late vascular lesions which led to constrictive sclerotic and/or gangrenous lesions of the bowel.

CASE 1

This case occurred in my private and hospital practice about 15 years ago. A man in his late thirties was operated upon for a carcinoma of the ascending colon and a resection of the latter with immediate anastomosis of the stump of the ileum to the transverse colon was done. The patient made an excellent recovery. Thereafter he was given an intensive course of radiotherapy by a very competent radiotherapeutist. During the first year, the course was repeated twice.

One year later he was admitted to the hospital for acute abdominal symptoms with obstruction. At operation, a rather long segment of the small intestine was shrivelled down to a very narrow caliber. The wall of the gut and the adjacent appropriate mesentery were intensely sclerotic. The cut section and edge bled poorly. The larger blood vessels showed extensive disease and the small vessels were difficult to find in the sclerotic tissue. The convolutions were extensively and densely adherent to one another and parts were gangrenous. The loop was resected. The patient did not do well after operation and died several days later.

The post mortem examination confirmed the operative findings and showed in addition a marked athero sclerotic obliterating process in most of the blood vessels of the mesentery leading to the resected area.

CASE 2

In March 1945 the patient, then in his early fifties, was operated upon for a carcinoma of the sigmoid. A resection with immediate end to end anastomosis was done. As far as one could tell macroscopically, the blood vessels of the mesentery were as normal as one could expect them to be in an individual of his age, and, at the site of resection, the cut blood vessels looked normal and bled freely. The man made a good recovery and was discharged from the hospital well and with the wound healed.

Thereafter he was given one uncompleted course of radiotherapy.

In December 1945, while walking on the street, he was suddenly seized with severe abdominal pain and cramps. The pain continued and increased in intensity and he vomited. He was immediately hospitalized. There was good bowel function at first, and because of that and of the subsidence of his symptoms temporarily he was merely placed under observation. The symptoms then returned and an exploratory operation was done.

At operation a loop of small intestine was found adherent to the site of the previous operation. The loop was also doubled on itself and extensively adherent. The root of the mesenteric attachment at this point was infiltrated and thickened but there was no band or twist or other mechanical interference with the lumen of the bowel here except that it was much narrowed. The loop was gangrenous and it was resected with immediate anastomosis. The mesentery at the point of division bled poorly. The patient did not do well after operation and died several days later.

There was no post mortem examination. The resected loop showed extensive infarction.

DISCUSSION

In both of these patients, there was no evidence before operation of any cardio vascular disease or of any hypertension. It seems therefore that the abdominal lesion had no relation to any such vascular abnormality and was a local effect.

In the first case, the lesion was a very wide one and the shrivelled appearance of the intestine was undoubtedly due to a long-continued, chronic interference with the circulation. There was a very much smaller involvement in the second case; the gross appearance of the damaged loops did not resemble that of the first case. In neither case was there any demonstrable band or adhesion or any other extrinsic mechanical factor which might suffice mechanically to obstruct the loop. It seemed clear that the lesion was an intrinsic one. The intestine at the primary resection was grossly normal and the appropriate mesenteric vessels gave no visible or palpatory evidence of disease. It must be concluded, therefore, that whatever lesion developed was a subsequent postoperative phenomenon.

The one extraordinary factor introduced after operation is the radiotherapy. It is well known that one of the effects of the latter is an obliteration of the small blood vessels which it reaches. This is probably the cause of any subsequent blood vessel lesions in the mesentery, of any gangrenous process in short lived and more rapidly developing cases, and of the shrivelled bowel in slowly developing and more chronic cases.

There is a discrepancy in the size and concentration of the dose of X-rays which were delivered in each case. In the first case, the dose was large both in amount and in concentration, and, in addition the therapy was repeated. There is no doubt that this subject received a maximal total dose. In the second case, the therapy was begun with a fair amount of concentration, but when only partially completed, the patient elected to discontinue the radiotherapy, because of various rumors which he had heard about other so-called "well-founded" methods of preventive therapy. This patient received a much smaller total dose than the first one. I am unable to say whether any personal idiosyncrasy, as regards reaction to exposure to radiotherapy, might have been operative. But the character of the demonstrated lesion, could be regarded as an early effect, which, if it had been further developed, might eventually have terminated in the same sclerotic, shrivelled intestine which was present in the first case.

SUMMARY

Two cases are reported in which, following postoperative prophylactic deep radiotherapy to the abdominal cavity after resection of the bowel for carcinoma, there were late vascular sclerotic constrictive and/or gangrenous lesions of the bowel. Both cases terminated fatally.

RÉSUMÉ

L'auteur rapporte deux cas dans lesquells fut employée post-opérativement la radiotherapie profonde prophylactique à l'abdomen, après résection de l'intestin pour carcinome. Il y eut brève survie. A l'autopsie, on découvrit dans les deux cas des lesions vasculaires sclérotiques, constrictives et gangréneuses de l'intestin.

RESUMEN

Si informa de dos casos de resección de intestino debido a carcinoma en los cuales se aplicó una radioterapia postoperativa profiláctica muy profunda. Después se encontró que había lesiones vasculares esclerosas constrictivas o gangrenosas, o todas ellas, en el intestino operado. En ambos casos, las consecuencias fueron fatales.

Свод

Сосудисто-склерозные стягивающие и гангренозные поражения кишечника были найдены в двух случаях по послеоперативной профилактической радиотерапии живота, после резекции рака кишечника. Оба больные умерли.

The Treatment of Chronic Osteomyelitis

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THE high casualty, low mortality rate in the Second World War has brought the medical profession one of its greatest problems, chronic osteomyelitis. It is advisable for the doctor to prepare to see thousands of cripples, men who have been grievously hurt, men with chronic bone infections. They are now leaving the service for home to flood the doctors' offices and the hospitals. They do not want to be shunned, they do not want sympathy. They merely ask that they be restored to a healthy, useful life. If the medical profession fail these men, the disgrace would be unforgivable.

The bones of man for geologic ages have been subject to invasion by microorganisms. Osteomyelitis has been mentioned in the literature with ever increasing frequency since the invention of writing. The first effective treatment was rendered by primitive man when a sequestrum was removed by a thorn. Marked improvement in instruments followed century after century—they became sharper, longer and even shiny—but no improvement in the results was noted until the First World War. The fundamental surgical principles established during that period cannot be challenged.

The sequestra were removed along with the sinuses, granulation tissue, and infected bone cavities. Baer, Orr, Loehr, Albee, and Stewart developed methods of management which threw valuable light on these fundamentals of treatment. Baer advocated maggots, Orr, adequate drainage and prolonged rest, Loehr, cod liver oil and plaster of paris, Albee, bacteriophage, and Stewart, trinitrophenol glycerin and calcium carbonate.

The introduction of the sulfonamides[1,2,4] and penicillin[3,4,5] has greatly stimulated the attack on the specific causative organisms in the treatment of chronic osteomyelitis. The results have not been dramatic, but are encouraging. Penicillin is undoubtedly the most valuable of the chemotherapeutic agents. It is capable of inhibiting the growth of staphylococci in broth dilution of one to eighty two thousand.[6,7] It is practically nontoxic even in maximum therapeutic doses and gives promise of being the specific drug in treatment of a majority of cases of osteomyelitis.

PROCEDURE

One hundred and forty cases of chronic osteomyelitis resulting from war wounds were studied. All cases received adequate surgical treatment by removal of sequestra, sinuses, granulation tissue and infected bone cavities as indicated for the individual patient (Table 1).

Table 1. LOCATION OF INFECTIONS IN ORDER OF FREQUENCY OF OCCURRENCE

1	Femur	7	Metacarpals
2	Humerus	8	Os calcis
3	Tibia	9	Ulna
4	Radius	10	Pelvis
5	Phalanges	11	Metatarsals
6	Fibula	12	Tarsals

One hundred of the total, who had organisms sensitive to penicillin, were given forty to fifty thousand units of sodium penicillin every three hours, and had from one hundred to four hundred thousand units introduced dry into the wound, depending on its size, at the time of operation. The local treatment was continued daily in those wounds which could not be adequately closed due to the size of the defect. Care was taken to see that the powder was not wasted on the skin or superficial tissue.

Cultures were taken from the depths of the sinuses using care to prevent contamination from microörganisms on the skin. Cultures were repeated at operation and a portion of the infected bone used as a specimen. Cultures thus taken produced different predominating organisms; however, the latter method was thought to be more accurate and proved to be so by experience. Nevertheless, many patients with cultures reported nonsensitive to penicillin and the sulfonamides were given a therapeutic test of penicillin for a week or ten days. If the wounds showed definite signs of responding to the penicillin—and occasionally that did occur—the patient was given the benefit of this powerful chemotherapeutic agent also.

The penicillin sensitivity test used was simple. To a bottle of one hundred thousand units of sodium penicillin, 20 cc. of sterile distilled water was added, which gave a dilution of 5,000 units per cc. Under sterile conditions, ½ cc. of this solution was diluted with 50 cc. of sterile saline. Then 1 cc. of this 50 units per cc. was taken and again diluted with 49 cc. of brain heart infusion medium. This medium was made by adding 0.5 gm. of bacto-agar and 5 cc. of water to 1.0 gm. of brain heart infusion.

Trench plates were prepared by removing a groove 1 cm. in width down the center of a fresh blood plate. The groove was replaced with the infusion media containing one unit of penicillin per cubic centimeter, and the organisms to be tested were subcultured by streaking across the trench plate. Sensitive organisms failed to grow within 1 mm. of either side of the groove. Nonsensitive organisms grew over the groove.

Meticulous attention was given to the general condition of the patients with chronic osteomyelitis. The emaciated, septic, demoralized patients were improved with blood transfusions. Egg-nogs were given twice daily at 10 a. m. and 3 p. m., and the patients were encouraged to eat extra meat, which was added to their regular diet. The easily available essential amino acids, calcium and phosphorus in this food, and added vitamins in the form of capsules once daily, were given to improve the healing rate and thereby the morale of these men. Psychiatric and medical consultations were requested as indicated.

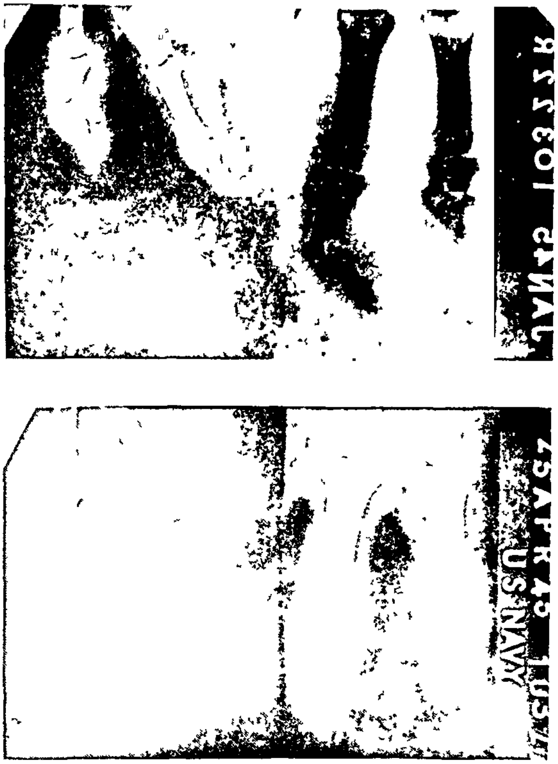


Fig. 1. Shows surgical reconstruction of fingers following traumatic osteomyelitis of 94 days' duration. Forty thousand units of penicillin given every 3 hours for 86 weeks prior to healing of wounds, and for 2 weeks after each of two surgical reconstructive procedures. Function of fingers restored to normal; patient returned to full military duty.

A study was made of sixty cases with osteomyelitis which had been healed for a period of six to twelve weeks. These patients were then operated for the deformities produced by their injuries and resulting infection. Skin grafts, bone grafts, arthroplasties, arthrodesis, tenorrhaphies and neurolyses cover the majority of surgical reconstructive procedures used (see illustrative cases).

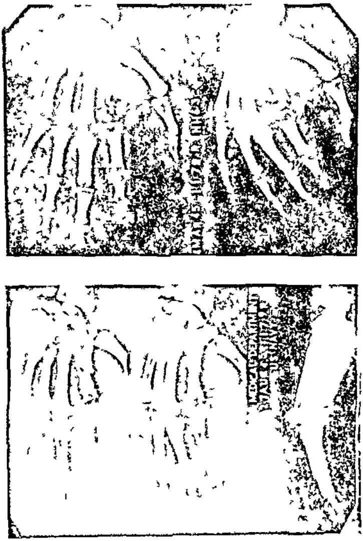


Fig 2 Reconstruction of metacarpal following traumatic osteomyelitis of 8 months' duration Forty thousand units of penicillin given every 3 hours for 3 weeks prior to healing of bone infection Six weeks later, bone graft from fibula was done and penicillin again given for 14 days Function of hand on discharge, 90 per cent of normal

These sixty cases were divided into three groups.

The first group consisted of twenty patients from the hundred who received forty to fifty thousand units of sodium penicillin intramuscularly every three hours. The same dosage of penicillin was resumed at the time of operation and continued for two weeks afterwards.

The second group of twenty patients had microörganisms in their infections sensitive to sulfadiazine and received only sulfadiazine in doses of 1 gram every four hours, night and day, until the drainage had ceased and the bone infection had apparently healed. The same therapy was started again and continued for two weeks after the operative repair of the deformities.

The injuries of the remaining twenty patients who were subjected to these operative procedures, had healed without the use of any chemotherapeutic agent. The records showed that the wounds had contained pathogenic bacteria sensitive to penicillin or sulfadiazine, or both. Ten of these, who had microörganisms sensitive to penicillin were given this drug, as were the first group, except that the dosage was reduced to fifteen to twenty-five thousand units and continued for fourteen days after the operation. The last ten of the sixty patients studied following surgical reconstruction were given sulfadiazine as outlined above.

RESULTS

The wounds of ninety-four of the hundred cases treated with forty to fifty thousand units of penicillin every three hours, healed and remained healed after an average period of observation of seventy-five days (Table 2).

Table 2 DURATION OF OBSERVATION AFTER CESSATION OF DRAINAGE

Shortest period	30 days
Average period	77 days
Longest period	146 days

The shortest period of observation after the wounds had healed was thirty days, the longest one hundred and

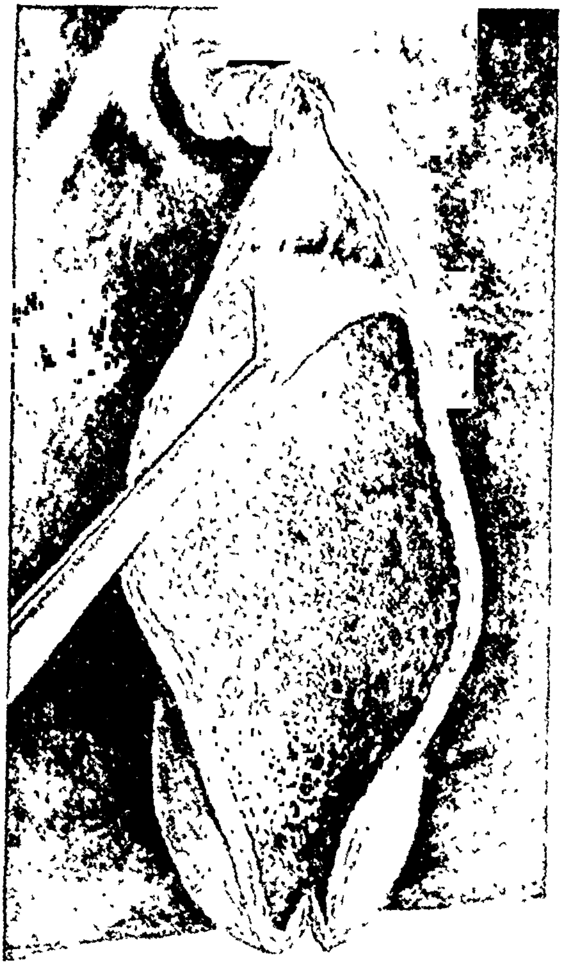


Fig. 5. Removal of mucosa.

ampulla of Vater, a cholangiogram is made by the injection of radiopaque substance through the T-tube. If there is evidence of obstruction or if the duct is dilated, the T-tube is allowed to remain.

At the termination of all gallbladder operations, a soft rubber drain is placed in Morison's pouch. This is brought out through a stab wound or through the main incision. Patients who do not have drains in their wounds after gallbladder surgery, appear to have more postoperative pain. There is also much greater danger of bile peritonitis, we have seen several cases that had to be reoperated to provide drainage. In a high percentage of our own cases, we find a considerable amount of bile on the dressings even though we twice carefully ligate the cystic duct. Occasionally, this may be explained by the presence of an accessory duct which was not noticed and ligated at the time of operation.

We frequently find it helpful to give antispasmodics such as atropine or nitroglycerine to the patient before irrigation of the T-tube or cholangiograms. We have tried without success, Best's regime of antispasmodics and chologogues for persistent obstruction except in a few cases. Ether in the common duct is dangerous because of the possibility that if there is an obstruction at the ampulla of Vater, the ether may get into the pancreatic ducts and precipitate an acute pancreatitis. When ether is used, no force is applied except gravity. It has recently been reported (1) that Solution G (Best & Taylor) is of great help in dissolving stones in the common duct through a T-tube.

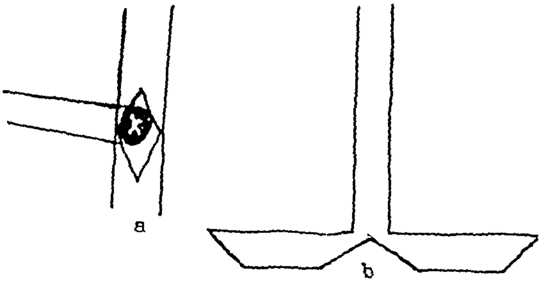


Fig. 6. Method of shaping "T" tube. a. Shows fringe of rubber about opening of long arm of "T" tube.

For the past seventeen years we have been using spinal anesthesia. We find it especially suitable for gallbladder surgery. It gives better relaxation, allowing more exposure of the biliary tract with less retraction trauma than may be obtained with general anesthesia. We did not use spinal at all in 1924. At that time, ethelene was slightly *favored over ether anesthesia* We no longer use ethelene Last year we used ether in 14 per cent of our gallbladder operations and spinal in 81 per cent In the bad risk cases, local anesthesia by field block and local infiltration, supplemented by gas or pentathol sodium is the anesthesia of choice

The preoperative preparation of the patient suffering from chronic cholecystitis *without jaundice is the same as that* for most other major surgery Especial attention, however, is given to the glucose reserve (*We have previously* pointed out that immediate operation is not advisable in cases of acute gallbladder disease) Morphine is given for sedation Massive hot stupes relieve the abdominal discomfort and the muscle spasm Dehydration is corrected and fluid balance maintained by parenteral methods with glucose and saline as indicated If the patient has been vomiting, sodium lactate or Hartman's solution may be used For vomiting or distention the Levine tube with continuous *suction is used* Oxygen therapy is also of value in distention We now give vitamins B, C and K routinely to all gallbladder patients both pre and postoperatively Vitamins B and C are given for their affect on healing and cell metabolism, and vitamin K for its affect on prothrombin formation which, of course, is of the most importance in the jaundiced patient Blood transfusions are given for jaundice, anemia and low serum proteins and are imperative in shock cases [illegible] *prefer small daily blood transfusions* [illegible] from 200 to 250 c c rather than large amounts in patients with [illegible]

For several years we have used [illegible] thiazole both pre and post[illegible] in acute gallbladder disease [illegible] appears to reduce the virulence [illegible] infection In addition we [illegible] penicillin

The postoperative treatment is a continuation of the procedures used in preoperative care It is this pre and *postoperative care which we believe* is the most important factor in reducing the mortality rate from 6 2 per cent for all cases in 1924, to 3 1 per cent (or a 50 per cent reduction) in 1944

There has also been a marked change in the time during the course of the disease at which operation is undertaken The average age of the patient operated upon in 1924 was 44, in 1944 it was 50 In 1924 many operations were performed for chronic cholecystitis without stones These patients had the *same symptoms and in about the same* percentage as did the cases operated upon in 1944 Pain was apparently a greater factor in 1924, since it occurred in 98 per cent of the cases, whereas it was present in only 86 per cent in 1944

It must be remembered that it was in 1924 that Graham introduced his dye method of cholecystography Prior to that time there was no accurate method of determining the presence of radio transparent stones With the more recent refinements in the dye used in gallbladder *studies, our diagnostic acumen* has increased Now cases of cholecystitis without stones are usually treated medically, if their symptoms are not too discomforting or if they have no acute attack complicated with empyema, gangrene of the gallbladder or the danger of perforation

Ninety one per cent of the cases operated upon in 1944 had stones [illegible] *per cent had stones in* 1924

[illegible] were first made in our [illegible] 1925 Since then we [illegible] of 4800 tests In [illegible] made hundreds of tests [illegible] cases of chronic [illegible] given preoperative

Graham tests. Whenever possible we also like to have upper gastrointestinal studies and barium enemas. Graham tests are of course not done during acute attacks or in the presence of jaundice. We do want to call attention, in the latter type of case, to the value of a scout film of the abdomen and chest. This frequently reveals the presence of gallstones and a distended gallbladder together with the presence or absence of pneumonia.

Gallbladder disease may, in some instances, mimic cardiac disease. Palpitation and tachycardia may result from reflex parasympathetic stimulation associated with an acutely distended gallbladder. On the other hand, cardiac patients may also have gallbladder disease. If there is any question of myocardial or coronary disease in any of our patients, we obtain an electrocardiogram.

Neither previous attacks of supposed coronary disease, hypertension, or obesity should prevent surgery if it is needed in infected gallbladder cases with stones. Many so-called "invalided" patients with definite cardiac pathology and gallstones will be benefited by proper gallbladder surgery.

COMPARISON OF CASES OF GALLBLADDER DISEASE OPERATED UPON IN 1924 AND 1944

	1944	*1924*
Number of cases	132	65
Men	27	14
Women	105	51
Average age	51	44
Oldest	84	78
Youngest	22	21
Average number of days in the hospital	18	18
Previous gallbladder surgery	5	2
Symptoms		
Pain	114 (86%)	64 (98%)
Colic	37	11
Nausea	74	32
Vomiting	60	27
Chills and fever	26	6
Jaundice	23	7
Weakness	7	13
Pathology	*1944*	*1924*
Number of cases		
With stones	120	35
Chronic	99	30
Acute	21	5
Without stones		
Chronic	9	29
Acute	3	1
With hepatitis	25	20
With pancreatitis	8	17
Operations		
Cholecystostomy	6	24
Cholecystostomy and choledocostomy	3	0
Cholecystectomy	94	26
Cholecystectomy and choledochostomy	19	1
Cholecystectomy and drainage of the cystic duct	9	14
Gallbladder surgery and appendectomy	16	24
Anesthesia		
Spinal	72	0
Spinal and gas	24	0
Spinal and ether	9	0
Spinal and pentathol	2	0
Ether	19	23
Ethelene	0	28
Ethelene and ether	0	9
Local and gas	4	5
Local and pentathol	2	0
Complications		
Deaths	4 (3.1%)	4 (6.2%)
Ruptured gallbladder	4	0
Cardiac	14	2
Pneumonia	3	2
Atelectasis	6	0
Wound infection	4	2
Bile peritonitis	3	0
Wound disruption	1	0
Diabetes	1	0
Hyperinsulinism	1	0
Typhoid fever	1	0
Other operations performed at same hospitalization		
Number of cases (total)	14	5
Pelvic	6	2
Thyroid	4	1
Removal of foreign body	2	0
Meckel's diverticulectomy	1	0
Cystoscopy	1	1
Hemorrhoidectomy	0	1

SUMMARY

A comparison is made between gallbladder surgery, as done 20 years ago (1924) and today. Some of the principles of the surgical technic are reviewed. The importance of pre- and postoperative care of these patients, in the use of water, electrolytes, glucose, blood, oxygen, vitamins B, C and K, morphine, hot stupes, suction, sulfathiazol and penicillin, is stressed. To the judicious use of these aids, the authors credit most of the 50 per cent reduction in operative mortality which has occurred in the twenty years of the study.

It is pointed out that immediate operation is not advisable in cases of acute gallbladder disease. Instead, operation should only be undertaken after proper preoperative study and preparation. It is further stated that surgery is not advisable upon the *poorly-functioning* gallbladder without stones, if the patient is not greatly distressed thereby.

RÉSUMÉ

L'auteur compare la chirurgie des voies biliaires d'il y a vingt ans et celle de nos jours. Il passe en revue les principes de la technique chirurgicale. Il attache une grand importance aux soins pré-opératoires et post-opératoires des malades. Il recommande fortement et discute à fond l'emploi de [illegible], des électrolytes, de la glucose, du sang, de l'oxygène, des vitamines B [illegible] et C, de la morphine, des [illegible] [illegible] presses chaudes, de [illegible], du sulfathiazole et de la [illegible] de ces différents [illegible] attribue en grand [illegible] de la mortalité opé[illegible] jours.

Dans des cas [illegible] mediate n'est pas [illegible] les *maladies aigu*[illegible] aire. On ne doit [illegible] et préparation [illegible] malade. Si le mal[illegible] souffrant n'opérer p[illegible] calculs biliaires *ou* d[illegible] lagique grave.

RESUMEN

Se hace una comp[illegible] cirujía de la vesícula [illegible] hacía hace veinte años (1924) y como se practica hoy. Se analizan alguno de los principios de la técnica operatoria. Se subraya la importancia del cuidado del paciente en los períodos pre y post operatorio, el uso del agua, la electrolisis, glucosa, sangre, oxígeno, vitaminas B, C y K, morfina, bolsas calientes, drenaje, sulfatiazol, y *penicilina*. El autor acredita al cuidadoso uso de estos auxiliares más de un 50% de la reducción en las muertes por operación durante los veinte años que abarca el estudio. *Subraya que no es aconsejable* una operación inmediata en los casos de enfermedad aguda de la vesícula biliar.

Por el contrario la operación sólo debe efectuarse después de una adecuada preparación y de un estudio pre operatorio. Indica además que no es aconsejable la cirujía en una vesícula de funcionamiento defectuoso, caso de no existir piedras, si el paciente no sufre considerablemente por ello.

[illegible]

Сделано сравнение хирургии желчного пузыря *теперь и 20 лет тому назад*. Обозре[illegible] некоторые принципы оперативной [illegible]. Подчеркнута важность до- и [illegible]ративного применения в этих [illegible] воды, электролитов, глюкозы, [illegible] кислорода, витаминов B, C и K, [illegible] горячих припарок, высасыва[illegible] [illegible]атиозола и пенициллина. Здро[illegible] применению этих вспомо[illegible] автор приписывает 50-[illegible] [illegible]ение оперативной [illegible]ении его 20-ти лет-[illegible]

[illegible] желчно пузырного [illegible] операция не [illegible] того операция дол[illegible] [illegible] после тща[illegible] [illegible] изучения и [illegible] что хирур[illegible] [illegible] не советуется [illegible] желчных [illegible] если только боль[illegible]

occur very often unless the thrombophlebitis is of recent origin. Apparently, the patency of deep circulation is reestablished within a year. In the thousands of patients who have come to me specifically for varicose vein treatments, I do not remember even one who has complained of pain after such a test.

Age is not a contra-indication. Some of the most startling improvements, not only in the legs but also in the whole well-being of the patient have been seen in patients past 80. One man who had had recurrent ulcers over both legs for some 53 years and had walked with Unna boots 3 months out of every year, was able to get rid of his constant edema of the ankles and ulcerations within a few weeks with only one complaint, "Why didn't somebody operate on me before?"

The decompensated cases should be digitalized; diabetics should be brought under control before surgery. The heart cases usually have a better sense of well-being after high ligation since they are relieved of congestion in their legs.

ULCERATED CASES

Even acutely inflamed and ulcerated legs can be prepared for surgery within a very short time. Like everyone else, I used to waste a great deal of time in palliative measures waiting for the ulcers to heal up (or nearly so) before ligating. Now I treat them for several days with lead subacetate compresses, and, if the patient is in the hospital, also with quartz light. The leg is elevated but the patient is encouraged to be out of bed every two hours with the veins well supported with elastic bandages. Under this regimen these patients are ready for surgery within a few days to three weeks, depending on the size and severity of their ulcerations. Oozing stops, induration and dermatitis clear up and the swollen glands in the groin subside.

Most of these patients have a great deal of tenderness, redness and local dermatitis and at times a generalized rash because of the variety of drugs used on their legs. In their anxiety to get results, both doctors and patients tend to apply stronger drugs. When these fail they change from one kind to another in quick succession until the patient suffers from both the disease and medication. While preparing this paper, I saw a severe case of exfoliative dermatitis in a patient who had been treated vigorously by local applications of penicillin, also another who had been given a sulfathiazole ointment, the cure in this case being worse than the disease.

After all, the brownish trophic discoloration, swelling and ulceration are merely results of lack of proper circulation and not of an infection, though bacteria invade any devitalized tissue. By elevating the leg to get rid of stagnation and by applying lead acetate, which is an astringent anodyne and discutient, you check oozing and bacterial growth subsides. However, during this preparatory stage patients should not stay in bed continuously. They should be up and around at intervals of a few hours with elastic bandages applied to their lower legs. This keeps their spirits up and prevents them from becoming flabby and bedridden; also it forestalls thrombosis with its unfortunate sequelae of embolism. The night before surgery, the entire leg is shaven and prepared from the toes up to the umbilicus.

ANESTHESIA

To prevent thrombosis or thrombophlebitis, it is imperative that patients be ambulatory immediately after surgery; therefore I never use a general anesthetic Sedatives the night before and perhaps also the morning of surgery with a small dose of pantapon are all that is *necessary, except for 1 per* cent novocain locally Since the total amount of novocain seldom exceeds 60 cc, in patients who are free of hypertension, it is permissible to use three *drops of adrenalin to an ounce* This prevents the annoying oozing present in some cases

The surgical area is infiltrated subcutaneously After the incision has been made it may be well to inject some novocain also into the deep layers When handling the great saphenous vein, the patient will experience some pain if the sheath is not also infiltrated In doing this, one should be careful not to deposit the solution in the lumen Some of the patients sleep all through surgery with the aid of pre medication, but will awake and complain bitterly of pain if the saphenous sheath (which is full of nerves) is not also anesthetized In a *few very apprehensive or emotional pa*tients who do not want to know what is going on, I have used sodium pentothal with great satisfaction

SITE OF SURGERY

When we say high ligation, we mean as high as possible, not just anywhere along the great saphenous vein It has to be exactly at the saphenofemoral junction and not an inch or even one half inch below this means the inclusion of all the branches of the great saphenous at this point I have been obliged to operate on patients, who already had bilateral high ligation, not only because the ligation was not done flush at the saphenofemoral junction but also because one or more of the branches at the juncture were not tied off This kind of surgery will never produce the desired results this is one of the greatest causes of the failures which are bringing the technic into disrepute If you do not want a tree which is in your *garden, you don't just chop off* one or two of its boughs or even saw it off in the middle of its trunk You go down as close to the ground as possible The same is true with the trunk of the great saphenous (*fig* 7)

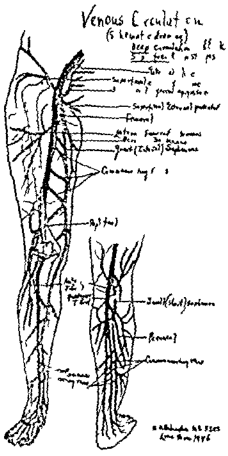


Fig 5

Therefore, the most important thing to emphasize and re emphasize is this truth The ligation has to be at the extreme terminal end of the great saphenous at the femoral and it must include all the branches These branches often are not arranged according to our text book pictures (fig 5) The variations in number and type of branching are so great that a number of papers have been written on this subject alone, the most recent one by four men in Chicago who have done 550 anatomical dissections[2]

INCISION

A great deal has been written about the incision. It should be up and down or it should be across. It should be very small or it should be long. All of this is important only to the extent that it gives you the proper exposure to do a thorough job.

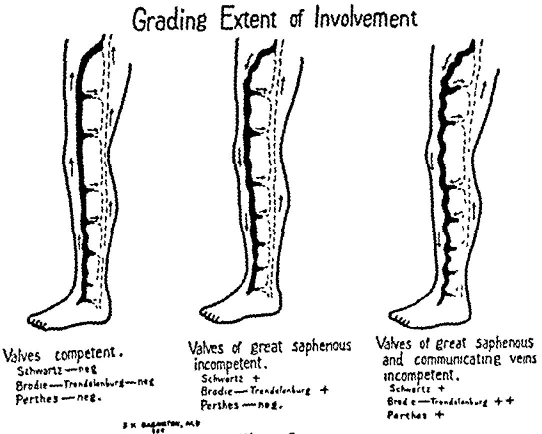
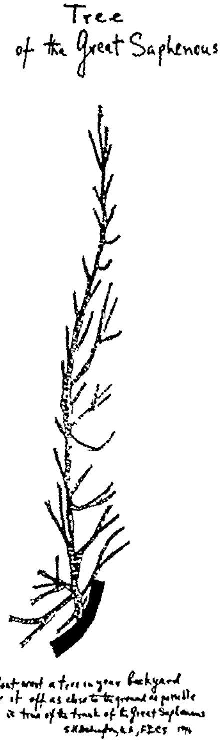

Grading Extent of Involvement

Fig. 6

Probably a transverse incision just below the inguinal fold should be considered the more desirable because of the ease of approximating the skin in closing. But after having used both transverse and longitudinal incisions over a period of many years, I have come to prefer the latter because it permits extension upward which is necessary in some cases where the saphenofemoral juncture is somewhat higher and its branches are easier to get at above (fig. 8). One third of my incision is above the inguinal crease and two-thirds below.

As to the length of the incision, it should be adequate. In obese persons it may have to be longer because of the depth, but whether a little longer or a little shorter the healing time is the same.

To make an incision, I palpate the femoral artery and make a scratch with the back of the scalpel about an inch mesial to it. This way there is no need of marking the saphenous beforehand by dyes or measuring the distances from the pubic bone which may vary in different people. In some patients the femoral trunk is more lateral or too mesial. Even in most of the obese you can feel pulsation in the femoral artery. In this way you avoid dealing with the variable measurements. However, in making your incision be sure that you are not pulling the flesh from one side to the other, especially in the obese or in those with a very loose skin because of recent loss of considerable weight.


Tree of the Great Saphenous

If you don't want a tree in your backyard you saw it off as close to the ground as possible. The same is true of the trunk of the Great Saphenous tree

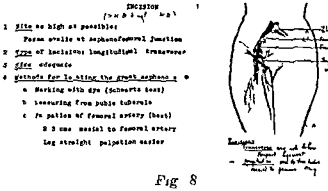
Fig. 7

You will meet a number of superficial bleeders which must be tied off first. I prefer having my patient's leg held straight since when it is abducted or the knee bent, the palpation of the artery becomes difficult because it drops deep in the triangle formed by the heads of the abductor longus and sartorius muscles. If any enlarged glands lie in the path of the incision (this is a common occurrence in ulcerated cases), they should be excised instead of cutting into them. No need of stirring up infection or causing bleeding which is apt to occur if they are incised.

LIGATION AND RETROGRADE INJECTION

With proper exposure, the great saphenous will be found near the inguinal fold below the superficial fascia entering the fossa ovalis. The incision is continued into the coverings of the vein and the vessel is exposed for a few inches. Now it is lifted, clamped with two pairs of hemostats and sectioned

One must be careful not to place the clamps too close together before cutting as they might slip or pull off from the ends of the stumps in manipulation. In some cases I use two pairs of clamps on the proximal stump or place a ligature on it *in addition to the one clamp in* order to make certain that there won't be any bleeding in case the clamp happens to be defective and slips off inadvertently.

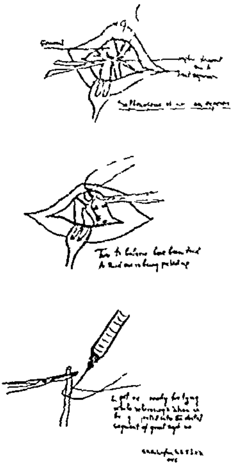


INCISION

1 Site as high as possible
Fossa ovalis at saphenofemoral junction
2 Type of incision longitudinal transverse
3 Size adequate
4 Methods for locating the great saphenous
a Marking with dye (Schwartz test)
b Measuring from pubic tubercle
c Palpation of femoral artery (best)
2 3 cms mesial to femoral artery
Leg straight palpation easier

Fig 8

With the aid of the clamp or clamps, using them like handles, the proximal stump is *lifted and the dissection con*tinued toward the terminal end of the vein At times one meets a few small intercommunicating veins between the great saphenous and the femoral, especially in old chronic cases. These also have to be ligated separately. Finally



Figs 9, 10 and 11

the femoral vein is reached and all tributaries at the saphenous bulb are tied off These tributaries usually are mesially external pudental, cephalad superficial epigastric and thoraco-epigastric, laterally superficial circumflex iliac and laterally, but going downwards external superficial femoral. It is imperative that these tributaries or any others present be tied off carefully (*figs* 5, 9, 10).

The great saphenous stump is ligated next as close to the femoral vein as possible, using No. 0 chromic catgut. If the ligature is not flush with the femoral vein a thrombus may form in the stump. A second but transfixing ligature is *placed distal to the first and the excess* stump amputated In putting the needle through the vein for transfixing purposes [illegible] should not pull on the stump too [illegible] will *put a strain on the* femoral [illegible] veins and damage them Th[illegible] be steadied with the aid of a pair of hemostats and the needle should be the cutting type.

McPheeters[7] places a pursestring suture to reinforce the foramen while he tucks in the proximal stump without amputating the excess portion of it. I have never done this and I do not see any reason for it, nor have I seen any ill results because of not doing it. My stump being very short, it is very easily covered up by one or two interrupted sutures which pick up the edge of the foramen and superficial fascia together.

The distal end is next lifted with the aid of the clamp which was placed on it before transecting the vein. A chromic catgut ligature No. 0 is now placed around the vein somewhat below the clamp but not tied, and a sclerosing solution injected into the vein with a short 25 gauge needle. As the needle is being withdrawn, my assistant ties off the ligature. A second but transfixing ligature is placed distal to the first and the excess stump amputated (fig. 11). If the varicosities in the thigh are unusually large, it may be well to place the patient in a slightly Trendelenburg position to empty the veins before injecting the solution. The table is levelled as soon as the solution is in.

The essential part of the operation being completed, the wound is washed out with normal saline to detect minor bleeders if any, as otherwise there might be some oozing which would delay the healing by causing hemotoma.

There has been a great deal of talk about injecting or tying off the femoral vein by mistake, about developing thrombosis in the femoral vein from the sclerosing solution which supposedly gets into it through the perforating branches, and about hemorrhage from the saphenous stump. I have never had such cases. In analysing reported cases, I have come to the conclusion that these accidents are primarily caused by:

1. Lack of understanding of the anatomical arrangement and variations in structures. The great saphenous enters the femoral usually at an acute angle. At times the femoral lies very close to it and at times the femoral artery may be anterior to the femoral vein. Where one is not sure of his structures it would be well to dissect up to the foramen and see where the saphenous enters the femoral vein before clamping it.
2. Too much haste in placing clamps on structures before they are identified properly.
3. Failing to handle the structures with gentleness.
4. Failing to doubly ligate the stumps. In addition to the double ligation one of my ligatures on each stump is the transfixing type (the needle going through the lumen), tied on both sides of the vein and then sutured to the superficial structures near by.
5. Surgery outside of a hospital where proper facilities are lacking. This kind of surgery should always be done in a hospital. All the patients who have come to me with a history of an office or clinic ligation had a ligation a few inches below the saphenofemoral juncture. I believe this is unforgivable in the light of our present knowledge and perfected technic.

SCLEROSING SOLUTION

The questions usually raised are: "What do you inject?" "How much?" "Doesn't it get into the arterial system?" The last question is easiest to answer. No, it can't, since the flow in the veins is towards the heart. Besides, if it were possible to force down the solution, it has to go through a vast plexus of venous and arterial capillaries where it would become greatly diluted before reaching any arteries. My injection is not made under pressure and the amount of solution is so small that it never could distend the veins injected. I use monolate and only 3 to 5 cc. altogether. The solution gets better distributed as soon as the patient is off the operating table. In over 300 consecutive cases of retrograde injection and in many thousands of office injections, I have never had a single case of severe local or generalized reaction from monolate or any evidence that any of the solution entered the femoral vein by way of the communicating branches. Severe reactions in reported cases were due, perhaps, to overly large amounts of sclerosing solution.

LIGATION OF PERFORATING BRANCHES

In Grade III varicosities, better results will be obtained if the great saphenous is ligated along its course both in the thigh and lower leg wherever it is joined by an incompetent perforating branch. Sutures are placed in pairs, one just above and one just below the perforating vein which is located by comparative tourniquet test and marked prior to surgery. The ligation is done very simply and easily through the skin with chromic catgut using a cutting needle. The tight ligature applied through the skin will, within two weeks, cut through the vein and do the same thing as an open ligation. I also believe that we should place similar ligatures on the greatly enlarged and tortuous branches of the great saphenous in the lower leg even in the absence of incompetent perforating branches, since these superficial veins are often unsightly, forming large plexes of lakes, and are at times the only cause for bringing the patient to surgery. Both for cosmetic reasons and for more lasting results these veins should have their continuity interrupted. It this is done very seldom will it be necessary to do any injections in the lower leg after surgery.

LIGATION OF THE SMALL SAPHENOUS

Then there are some who, by some magic, expect the high ligation and the sclerosing solution to take care of all varices in the lower leg, forgetting that the small saphenous is not a branch of the great saphenous. The small saphenous is a branch of the popliteal vein and drains primarily the posterior and lateral aspects of the calf (fig. 5). Being shorter than the great saphenous and having a little better fascial support it is not apt to become varicosed so easily. If need be, its terminal end can be exposed at the popliteal fossa just below the knee joint, ligated and injected in the same fashion as is done for the great saphenous at the fossa ovalis. The ligation of its branches below the popliteal fossa can be done very easily through the skin as in the case of the great saphenous. In two weeks these catgut sutures drop off. If, occasionally, one or two of these persist in staying in, they can be removed as any other skin stitches. These ligations through the skin usually require no treatment or care, except for a protective dressing held in place for two weeks with adhesive tape.

DRESSING AND POSTOPERATIVE CARE

This is one type of surgery where I believe the dressing should be done by the surgeon himself. The bandaging should be firm but not tight. The firmness will obliterate a possible space and prevent oozing—capillary or lymphatic—consequently giving a quicker healing wound without infection. This is especially true in the obese. A f [illegible] res
are rolled together and p
length of the wound, the

covered with flat sponges. Now two or three-inch wide adhesive strips are firmly placed over the dressing. These fan out from the inner side of the thigh well above the lower quadrant of the abdomen and outer thigh. They should fit well in the crotch but not cut into the flesh when the patient walks. It is seldom that I ever do any other dressing of the wound until it is time to remove the stitches one week later. If there are large varices over the inner thigh, which often look like a bunch of grapes, I apply strips of adhesive tape over them, but these do not encircle the entire leg to impede the circulation. These also stay on for one week or longer.

As to the care of the lower leg, elastic stockings or ace bandages are placed over it and the patient permitted to get up and walk about immediately. This prevents thrombus formation and I am very happy to report that I have never had a patient who developed thrombosis, phlebitis or embolism. Of course, if there are any ulcers present they are covered with plain gauze held in place with adhesive before applying the elastics. If the patient has been properly prepared prior to surgery, the ulcers are usually dry and do not require very much attention. All ointments are superfluous. This dressing and elastics also are left in place for one week and inspected at the time of the removal of the sutures from the inguinal wound. Usually by the end of the second week all dressings both from the thigh and lower leg are discarded (unless the ulcers require some protective coverings), except for the elastics which are worn for at least two months. They may be removed for the night, but must be re-applied before getting out of bed. At the end of two or three months they are left off an hour or so a day for the first week, for two hours a day the following week, and so on until their use is discontinued. During this period if there are any varices in the lower leg they are injected.

These patients should return for checkups at intervals of several months so that if any small varicosities make their appearance they may be treated before they enlarge. After all, these patients have a diathesis for forming new varicosities—an inherent condition—and no operator should ever promise that no varices will ever develop regardless of how thorough his work is. Even those patients who have gone through the most radical surgery with extirpation of the great saphenous and all of its large branches have come to me for ligation which means that some of the smaller branches have become gradually distended. In a few of these cases that I have operated upon I have found one of the main troubles to be the failure to get all the branches at the saphenofemoral juncture. Sometimes the pudental or superficial epigastric and sometimes the circumflex iliac were left untied. In other words, the ligation was not done high enough and a collateral circulation was established through these blood vessels, causing smaller superficial veins to distend because of the inherent weakness of the intima.

Seldom is there need for additional injections in the lower leg after the interrupting ligatures have been placed through the skin following the type of the saphenofemoral surgery described above.

BILATERAL LIGATION

Then there is the question of operating on both legs at one time. Probably this could be done in most of the patients without any fear, but once in a while there is a patient who will refuse to get out of bed or walk after bilateral surgery because of the pain, whether real or imaginary These usually are hypersensitive and imaginative people But if only one leg has been operated upon, they will cooperate by using at least one leg without any fear As an example, I would like to cite a case

> A patient in her 40's with extensive varices already had had two attacks of bilateral phlebitis in her saphenous system because she had been kept in bed, once on account of pneumonia, and another time because of an abdominal operation She was a very apprehensive and sensitive type and yet she wanted to have her ligation done on both legs at the same time Knowing her type, I refused One leg was done first Most of the patients jump out of bed soon after surgery and walk about freely, but she did this under protest and only after a great deal of persuasion Later she thanked me for refusing her request, as she was certain that she could never have been up on her feet otherwise
>
> When the second leg was operated upon, the situation was the same She did a lot of complaining when up Had she had both of her legs done at the same time, I am convinced we would have been in serious trouble, since she already had a predilection for phlebitis as evidenced by her history And one does not want to increase his morbidity or mortality record

Though it is very seldom that my patients have a marked rise of temperature accompanied by tenderness along the great saphenous in the thigh on account of the sclerosing solution, the fact remains that had they had a bilateral retrograde injection this reaction would have been doubly hard on them

ACUTE PHLEBITIS OF THE SAPHENOUS SYSTEM

Occasionally we see cases with acute thrombophlebitis in the great saphenous vein If immediately ligated, these patients are saved from a great deal of suffering and loss of time The ligation is done high and the cord like section of the vein in the thigh resected for a few inches Of course, no retrograde injection is done However, if any section of the vein below becomes recanalized and in subsequent years shows the presence of incompetent perforating branches along its course, it may become necessary to place a few interrupted sutures through the skin at these levels Without immediate surgery these patients, besides suffering, are disabled for weeks and are apt to develop further thrombosis by extension in the femoral, or to come down with embolism

CONCLUSIONS

1 It has taken nearly twenty centuries to develop a simple technic for varicose vein surgery based on anatomical and physiological knowledge of the circulation in the leg There are biochemical forces at work which need further investigation for prevention of varices The history of surgical technic is from the time of Celsus up to date is traced

2 The more radical technics give [illegible]0 per cent "recurrences", 7 per cent embolism and 2 per cent deaths, besides being cumbersome, requiring prolonged hospitalization and producing scars A thorough ligation of all tributaries at the saphenofemoral junction is a neater and simpler operation without any mortality or morbidity in competent hands, without hospitalization, loss of time, or unsightly scars, and yet with better and more lasting results

3 Surgery should be done early before all the valves in the great saphenous have been entirely destroyed To wait until the valves in the communicating branches have been destroyed or until ulcers have appeared is equivalent to treating your heart cases after a complete decompensation has set in or

operating on your appendix cases after the organ has been perforated.

4. Ulcerated cases, after a few days of treatment to clear up any superimposed infection, should also be operated upon early for quick recovery from the ulcers instead of waiting for them to heal up.

5. Anesthesia should be local, or sodium pentothal in the most apprehensive patients, so that patients may be made ambulatory right after surgery to prevent thrombosis and embolism.

6. The details of surgical technic with retrograde injection, including preoperative and postoperative care, based on over 300 cases, are outlined and illustrated with schematic figures.

SOMMAIRE

Après une revue de la littérature sur les varices, l'auteur nous dit qu'avec l'augmentation de nos connaissances du sujet, nous méthodes de traiter les varices deviennent de plus en plus simples. De son expérience avec plusieurs centaines de cas, il énumère certaines conditions essentielles et cite quelques conclusions. Il considère qu'il importe pour achever des guérisons, de faire une haute ligature de la veine grande saphène afin d'inclure les nombreuses branches de cette veine. Il préconise l'ambulation prompte du malade (quand c'est possible) pour prevenir la phlébite. Pour diminuer la confusion de nomenclature. il classifie ses malades en trois groupes. se basant sur les reactions individuelles classíques de fonction veineuse. Il nous cite les indications et les contreindicatures du traitement chirurgical et due traitement par injections sclerosantes.

RESUMEN

Cien años después de Cristo el romano Celso se convertía en el padre del tratamiento quirúrgico de las venas varicosas, al hacer incisiones sobre las várices a intervalos de 4 pulgadas, tocándolas luego con un cauterio y extrayendo el coágulo.

Desde entonces los cirujanos han continuado por casi 1800 años empleando modificaciones de esta técnica, pero nunca por encima de la rodilla. A causa del desconocimiento de la anatomía y fisiología, incluso hasta 1768, los cirujanos desangraban a los pacientes a extremos fatales, extrayendo sangre de las várices. Fué ya en el siglo XIX cuando la gran vena safena vino a ser el objetivo de ataque de los cirujanos, pero todavía habían de transcurrir 50 años antes de que la safena fuera inutilizada en su unión con la femoral. De todos modos, estas operaciones consistían en general en procedimientos tributarios de complicaciones y de un gran período de hospitalización y sus resultados no eran satisfactorios. Los mejores resultados atribuíbles a esta técnica están representados por un 30% de recurrencias, 7% de embolias y 2% de mortalidad.

La ligadura que empleamos hoy día con inyección retrógrada no va seguida de mortalidad alguna y la morbilidad es prácticamente nula en manos expertas. Con este método se require muy poca o ninguna hospitalización, de dn día o dos, y vuelve rápidamente a sus ocupaciones normales.

El mejor tratamiento de las várices sería el preventivo, pero casi nada podemos hacer a este respecto ya que el origen de la alteración es una diátesis heredada o bioquímica sobre la cual conocemos muy poco. Lo mejor es llevar a cabo la ligadura de un modo precoz antes de que el daño venoso sea grande.

Hay algunas contraindicaciones pero la edad no tiene nada que ver a este particular. Los casos cardíacos se com-

(Continued on page 618)

Vincent A. Lapenta, M.D, R S A. (Eng), F I C S

The numerous friends and admirers of Dr Vincent Lapenta of Indianapolis Indiana were shocked to learn of his death following a brief illness, on Easter Eve April 20th. He was 62 years old

Dr Lapenta was a native of Italy where he received his MD degree in 1906 He [illegible] United States the next year and [illegible] Indianapolis in 1911 where he [illegible] an consul for many years He [illegible] abdominal surgery and at[illegible] [illegible] [illegible]derable degree of distinction [illegible] He was also the discoverer of [illegible] the control of hemorrhage

Dr [illegible] Reisler F I C S a long time [illegible] friend says of him, "Dr Lapenta's death was a shock that upset me completely I can hardly bring myself to speak of it To say that we shall miss him is an understatement

While I recognized his weaknesses, I also had the greatest admiration for the professed idealism which was fundamental to his being His good advice could always be depended upon his direct straight forward thinking and resolution were undeniable His eagerness to reconcile opposing factions or points of view made him appear at times to vacillate in his loyalties, he would even, to meet some exigency, occasionally compromise with his idealism, but such were his weaknesses, the weaknesses possessed in some degree by each of us

"His opinions I always respected, his ability I always admired He was a resourceful master of surgery, he had an encyclopedic mind full of well classified information His knowledge of pathologic anatomy and physiology was amazing His command of the fundamental sciences and of organic and physiologic chemistry, together with his inherent ability to draw instantly upon this store, helped him to achieve a degree of diagnostic and surgical acumen difficult to equal

'It was my privilege to be closely associated with him for nearly twenty five years during which time we had many discussions of a philosophical nature Having been trained originally for the priesthood his spiritual and theological tendencies vied for expression with his scientific and artistic leanings and colored every thought and action of his career In the philosophy of St Thomas Aquinas he found inspiration satisfaction and solace This gave him not only a firm conviction of the supremacy of God but also the courage to pursue that wisdom which is only achieved by discovering scientific truth and learning the meaning of the labor entailed in that pursuit

Th[illegible] never went to the battle fronts Dr Lapenta could truly be called a war casualty T[illegible] impact of new ideologies of a materialistic nature afflicted us all, individuals [illegible] with confusion and error To Dr Lapenta, as much a fervant humanist as he [illegible] nationalist who continued to love the country that gave him breath no less because he more greatly loved the land which gave him scientific and personal opportunity, the war and its hatreds caused incalculable suffering.

"The International College of Surgeons has reason to grieve the loss of one of its foremost champions. He believed greatly in the scope and effectiveness of the College as a teaching institution for surgery, as well as a great human influence in bringing about international friendship and cooperation."

Recognition of Dr. Lapenta's ability was international; he was decorated both by his native Italy and by Romania, holding the rank of Knight Commander of the Order of the Crown from both nations. He was also a member of the state commission of the Gorgas Memorial Institute of Tropical and Preventive Medicine, and belonged as well to a number of local and state organizations, both lay and medical, and was a Fellow of the British Royal Society of Arts.

Maurice Charles Hennessy, F.A.C.S., F.I.C.S.

Word has been received of the death, following a lengthy illness, of Dr. Charles Hennessy of Council Bluffs, Iowa, Regent of the Iowa Guild of the International College of Surgeons. He was 55 years old.

Once again we stand to pay tribute to one of that army of valuable and unassuming medical men who, in the smaller cities scattered across this great land, have, singly or in earnest groups, done so incalculably much for the advance of American medicine and surgery. There is, actually, little in Dr. Hennessy's life history that is unusual, yet in the very usualness of that history lie the seeds of his value to his community and his profession. Such men as this, of whom those who knew him personally could say, "Others might temporize and dissimulate but he was always frank and to the point . . . his sincerity was so evident that his candor cost him no friends," are all too rare in this imperfect world.

Dr. Hennessy was born in Iowa City, Iowa, educated in the public schools of that place and at the University of Iowa. He had just settled to practice in Council Bluffs, when he went into the medical corps to serve throughout World War I. In December 1918, he transferred from the Ninth Aero Squadron to help organize the ARC military hospital in Liverpool, England. He also served on the disability board of the AEF. Except for this military interlude, he practiced in Council Bluffs throughout his professional career. During World War II, he served as chairman of procurement and assignment of physicians for the armed services in the eleventh councillor district and on the medical examining board of his local draft board.

Dr. Hennessy was head of the Iowa State Cancer Committee for three years, and was a member of the staff of St. Bernard's Hospital in his native city. He was a Fellow both of the American and of the International Colleges of Surgeons, having been admitted to the latter in 1937, making him a Charter Fellow. He served as Vice-regent of what was formerly District Number 7 of the I.C.S., and became Regent when the change-over was made to State territories. He was a Fellow of the American Medical Association, a member of his state and county medical organizations and belonged to the Iowa Clinical Surgical Society. From 1932 onward, he served as councilor in the state group. From 1932 to 1937 he instructed in clinical surgery at Creighton University He was also an associate member of Jennie Edmundson Hospital.

In addition to his medical activities, Dr. Hennessy served one term on the Council Bluffs Board of Education. He was also a member of the American Legion.

One of his four daughters, Mary Ellen Hennessy, is also a physician, now resident at Rochester, Minnesota.

ELEVENTH ANNUAL ASSEMBLY
OF
UNITED STATES CHAPTER
INTERNATIONAL COLLEGE OF SURGEONS

As this issue of the JOURNAL goes to press final plans are getting into shape for the first real peace time gathering of the United States Chapter of the International College of Surgeons. On the pages immediately following will be found details of various aspects of the program which the several committees have prepared for this occasion. For this reason it is gratifying to know that a very large number of Fellows and Members of the International College of Surgeons, as well as many guests, have indicated their intention of being present in Detroit for this Eleventh Annual Assembly from October 20 to 23 inclusive.

Dr. Louis J. [illegible], Detroit, Secretary of U. S. Chapter International College of Surgeons, General Chairman for Detroit Assembly

Dr. Herbert Acuff, President U. S. Chapter I.C.S.

Last year at the Tenth (Victory) Assembly in Washington, D. C., although technical peace had been restored to the world, shadows of war still hung heavily. Many of the Fellows and Members of the College were still in the Armed Forces of the United Nations and so were unable to attend. Many of those from Europe and Latin America whom we so greatly desired to have with us, were prevented by similar causes.

This year, most of such obstacles have been removed. We are happy and proud to *welcome to this gathering many whose first* opportunity it is to be with us. We are especially to be honored by the presence, during the programs, of a number of distinguished men of various nations whose world-wide reputations, both as surgeons and as writers on surgical subjects, are too well known to require recapitulation here.

In addition to the scientific portions of the program, a large number of scientific and technical displays, both of models and apparatus and of motion pictures have been arranged for. These are so planned as to form valuable auxiliaries to the lectures, and will be well worth the time and attention of everyone who attends this Assembly.

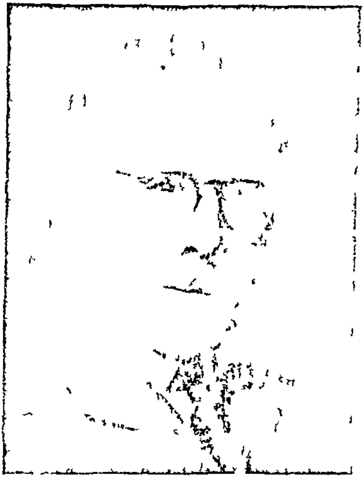
Prof. Arnold Jirasek, Prague, Czechoslovakia; First President of I.C.S.

The Convocation, always the colorful crowning point of Assembly schedules, promises to be by *far the most memorable to date.* The largest class of candidates in the history of the College is to be presented for induction and we are especially fortunate to have as the featured speaker of the evening, the distinguished former United States Ambassador to Japan, the Honorable Joseph C. Grew.

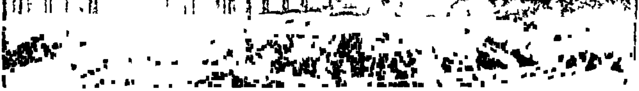
The Banquet which closes the session, will, as always, bring together a group of eminent speakers, chosen by the committee for their solid achievements in *various fields* of activity. These include Admiral of the Fleet Chester W. Nimitz; Vice Admiral Ross T McIntyre, Surgeon General for the U. S Navy; and Dr. Morris Fishbein, Editor of the "Journal of the American Medical Association."

Dr. Albert A. Berg, New York City, new President of the International College of Surgeons.

Mr Hamilton Bailey, F R C S, F I C S (Hon) distinguished British surgeon who will present a paper at Detroit Assembly entitled "Impending Death Under Anesthesia"



Prof Dr Alejandro Ceballos of Buenos Aires Argentina, Member of the Board of Trustees who will present a paper at Detroit Assembly



Auditorium Masonic Temple Detroit Michigan In this auditorium which seats more than six thousand persons, will be held the Convocation of the Eleventh Annual Assembly of the United States Chapter of the International College of Surgeons on the evening of October 29 1946

Schedule of Showing of Motion Pictures of Operative Procedures

Davis & Geck will present a series of surgical motion pictures during the intermission periods Pictures to be shown represent classic and modern operations as performed by outstanding surgical authorities.

Through the D & G Surgical Film Library, over three hundred pictures are available to medical schools, hospitals and other accredited medical and surgical societies.

The Medical Film Guild's Library will show the following films daily.

Rehabilitation for Parkinson's Syndrome

(Color and sound—projection time—54 minutes)

This film, a landmark in teaching brain disorders, presents this subject in all embracing fashion as a motion picture textbook. The various clinical signs in the patient such as masked facies, spasticity, and tremors as well as conditions in athetosis introduce this subject Anatomical structures and synaptic physiology are extensively depicted. Contributions in this field by Horsley, Meyers, Bucy, and Putnam are evaluated in comparison to the modern concept of Klemme who extensively analyzes 200 surgical cases A complete operative procedure step by step is shown together with pre and post operative conditions of patients

Non-Operative Treatment of Paranasal Sinusitis

(Color and sound—projection time—15 minutes)

This presentation is designed to outline an intelligent approach to the conservative management of those sinus infections that are encountered in the daily routine. Only simple proven forms of therapy are mentioned which have proven efficacious as demonstrated by many years of routine clinical employment.

Cervictitis—Etiology and Treatment

(Color and sound—projection time—50 minutes)

The cervix as a focus of infection for other uterine involvements is discussed from the etiological and anatomical viewpoints An analysis is made showing the bactericides formerly used as compared to modern concepts of bacteriostasis including the sulfonamides and penicillin. A rationale for effective clinical treatment is developed from these studies Classification shows cervical disease ranging from simple erosions to cystic conditions and on to further involvements requiring major surgery Methods of cauterization and surgical repair using the Sturmdorf Tracheloplasty technique are illustrated Research by several medical schools evolving a routine clinical treatment is statistically analyzed

Treatment of the Major Neuralgias

(Color and sound—projection time—50 minutes)

Involvements affecting the spheno palatine nerve the glosso pharyngeal nerve and the trigeminal nerve are analyzed both anatomically and physiologically. The work of Erlanger (Nobel Prize Winner 1944) in nerve physiology is demonstrated The inter relation of dental and medical problems are discussed Typical case histories, both clinical and surgical, of patients with spheno palatine neuralgia, glossopharyngeal neuralgia and trigeminal neuralgia are presented The procedure of the accurate differential section for surgical relief of trigeminal neuralgia overcoming eye complications is vividly shown and the results tabulated statistically.

Arterial Blood Pressure

(Color and sound—projection time—35 minutes)

Arterial blood pressure, its theory, physics and measurement This film is designed to demonstrate the manner of keeping both aneroid and mercurial instruments in proper working order. The physics of blood pressure is developed at great length together with important research problems, explaining the theory of the sounds picked up by the stethoscope Anomalies, such as auricular fibrillation, premature beats, coarctation of the aorta are identified. Facts of hypertension and hypotension are dealt with from the theoretical as well as the practical phases Produced for the medical profession at large, medical schools in particular

Management of Hypothyroidism

(Color and sound—projection time—35 minutes)

Differential diagnosis discusses variations between hyperthyroidism and hypothyroidism The essential clinical entities of hypothyroidism such as cretinism, juvenile, adult and pituitary myxedema are dealt with in great detail, with typical patients shown. Effect on the metabolism is depicted pharmacologically and clinically, by tests on animals to the cumulative effect on the patient. The recommended therapy to restore the patient to normal is analyzed thoroughly.

Management of the Failing Heart

(Color and sound—projection time—35 minutes)

Impairment of heart function due to auricular fibrillation, constrictive pericarditis, pericardial effusion, and effects on the respiratory system are shown The management of the patient in heart failure shows how salt restriction maintains the extracellular fluid in proper balance to reduce edema. Effects of mercurial diuretics and new potent digitalis derivatives are evaluated.

Film catalogs will be available at Cinema Room A where the pictures will be shown Following is the program of films

Dr. Custis Lee Hall, Washington, D. C., President Elect, United States Chapter.

MONDAY

3:30 to 4:00 Aseptic Ileocolostomy and resection of right colon for cancer. Dr. Fred W. Rankin, Lexington, Ky.

5:00 to 5:30 Partial Resection of the Stomach for Duodenal Ulcer. Samuel F. Marshall, M D, Lahey Clinic, Boston.

Dr. Morris Fishbein, F.I.C.S (Hon), Editor of the "Journal of the American Medical Association" guest speaker

5:30 to 6:00 Delivery of Quadruplets by cesarean section Dr John C. Ullery—Phila Lying In Hospital.

TUESDAY

8:30 to 8:40 Surgical Treatment of Hypertension by Lumbodorsal Splanchnicectomy. R H. Smithwick, M D. Massachusetts Gen. Hospital

TUESDAY

8:40 to 9:00	Right Pneumonectomy for Primary Carcinoma of the Lung. Dr. Richard H. Overholt, New England Deaconess Hospital.

Prof. Dr. Raul David de Sanson of Rio de Janeiro, Brazil; guest speaker.

10:30 to 11:00	Bilateral Femoral Vein Interruption for the Treatment of Deep Venous Thrombosis and Pulmonary Embolism. Robert R. Linton, M.D., Boston, Mass.
12:00 to 12:30	Upper Selective Thoracoplasty for Pulmonary Tuberculosis operation performed in three stages: With intervals of 10 to 14 days. Dr. Richard H. Overholt and Associates, Boston.
12:30 to 1:20	Transthoracic Partial Gastrectomy with Intrathoracic Esophageo-gastric Anastomosis for Carcinoma of the Cardia. Richard H. Sweet, M.D., Massachusetts General Hospital.

TUESDAY

1:20 to 1:45	Esophageal Diverticulum—Lahey's two-stage operation for diverticula of the pulsion type. Dr. Frank H. Lahey, Boston.
1:45 to 2:00	Complete Laceration of the Perineum. Dr. Louis E. Phaneuf, Boston.
3:30 to 4:00	Left Upper Lobectomy for pulmonary tuberculosis. Dr. Richard H. Overholt and Associates, Boston.
5:00 to 5:30	Cholelithiasis with common duct stone. Dr. Ralph Bettman, Rush Medical College, Chicago.
5:30 to 6:00	Joint Debridement. Experimental and clinical findings in the surgical treatment of arthritis. Dr. Paul B. Magnuson, Northwestern Univ. Medical School.

WEDNESDAY

8:30 to 9:00	Support of the Paralyzed Face with Fascia. Drs. J. Barrett Brown and F. R. MacDowell, Washington Univ. School of Medicine.
10:30 to 11:00	Keratoplasty—Square and Circular Transplant Technics. Dr. Ramon Castroviejo, Institute of Ophthalmology, Columbia Presbyterian Medical Center, New York.
12:00 to12:45	Pancreato-Duodenal Resection for Carcinoma of the Head of the Pancreas or Carcinoma of Ampulla of Vater, Dr. Richard B. Cattel, Lahey Clinic, Boston.
12:45 to 1:35	Surgery of the Common Bile Duct. Dr. Charles B. Pruestow, Univ. of Illinois, School of Medicine.
1:35 to 2:00	Inguinal Hernia. Dr. F. M. Al Akl, Kings County Hospital, Brooklyn.

Hotel Accommodations at the Detroit Assembly

As mentioned earlier, Dr Charles W Husband is Chairman of the Housing Committee for the Eleventh Annual Assembly of the American Chapter of the International College of Surgeons Dr Husband and his committee members are especially urging all those who plan to attend this gathering to bear in mind that the housing situation is still extremely acute, especially in an overcrowded industrial city like Detroit

The Committee has already lined up all available hotel space and will make every possible effort to see that rooms are provided for everyone They can, however, only function efficiently, if everyone who plans to be in town for any part of the Assembly program will cooperate with them fully by observing certain simple precautions They earnestly request all who are to be in the city overnight, or longer to

1 Plan as far ahead as possible

2 Advise the Committee by mail at the earliest possible moment, of the exact hour of arrival and length of stay planned,

3 Give first, second *and third* choice of hotel All requests for hotel rooms are being cleared through the Housing Committee every effort will be made to place visitors in the hotel of their choice but naturally, they can only, in fairness to all concerned handle requests in the order in which they are received

4 Accept a share in a double (or larger) room if attending the Assembly alone, as *very few* single rooms are available "Doubling up" will help everyone—and sometimes incidentally leads to the formation of delightful new acquaintances

A blank application form and list of Detroit s hotels will be found below and in the Advance Program of the Assembly which has already gone out through the mails to the membership or may be obtained by writing direct to Dr L J Gariepy Secy 16401 Grand River Avenue Detroit 27, Michigan

Hotels — Detroit

	Minimum Rate *Single*	*Minimum Rate* *Double*
Barlum Hotel 111 Cadillac Square	$2 50	$3 50
Book Cadillac Hotel Washington Blvd at Michigan Avenue	3 50	5 00
Briggs Hotel 114 West Adams Avenue	1 0	50
Detroiter Hotel 2 60 Woodward Avenue	3 00	4 00
Dearborn Inn Dearborn Michigan	4 00	7 00
Detroit Leland Hotel Cass and Bagley Avenues	0	4 00
Fort Shelby Hotel Lafayette at 1st Street	0	4 00
Imperial Hotel Peterboro at Woodward Avenue		3 00
Madison Lenox Hotel Madison Avenue at John R Street	1 7	–
Norton Hotel Jefferson at Griswold	00	4 00
Park Avenue Hotel Corner Park and Sproat	0	0
Prince Edward Hotel (W)	1 00	4 00
Hotel Statler Washington Blvd and Grand Circus Park	00	00
Hotel Tuller Park and Adams	[illegible]	4 00
Wardell Sheraton Hotel Woodward at Kirby	00	00
Webster Hall [illegible] Avenue W[illegible]	0	4 00
Lee Plaza [illegible]	1 [illegible]	00
Wolverine H[illegible]	3	4

Dr Chas W Husband *Chairman*
Housing Committee
International College of Surgeons
1005 Stroh Bldg
Detroit 26 Michigan

DEAR SIR

Please make hotel *reservation(s)* as indicated below

Hotel *(1st choice)*
Hotel *(2nd choice)*
Hotel *(3rd choice)*

(Single Room(s)) Rate $
(Double Room(s)) for persons Rate $
(Twin Bedded Room(s)) for persons Rate $

Arriving October hour A M P M
Leaving October hour A M P M

(Names and addresses of all applicants including person making reservation)

Name Address City State

Date *Signature*

AN INVITATION

Three groups of paintings—the work of three contemporary American artists, Dean Cornwell, Rockwell Kent and James Chapin—will be on display during the period of the Eleventh National Assembly of the United States Chapter of the International College of Surgeons in Detroit, October 21, 22 and 23.

These famous paintings and drawings depicting medical history and development will be shown in the Fine Arts Galleries of The J. L. Hudson Company. All attending the Assembly and their families and friends are cordially invited to view the exhibition.

The Cornwell group, done for Wyeth, Incorporated, of Philadelphia, is a series of six unusual paintings entitled "Pioneers of American Medicine," and have been exhibited under the auspices of medical societies and universities throughout the United States and Canada.

Rockwell Kent has on exhibit six drawings conceived as an expression of the mental symptoms of various diseases, and done for the Schering Corporation of New Jersey.

A series of seven paintings known as "The Seven Ages of a Physician," were created by James Chapin for Ciba Pharmaceutical Products, Incorporated, of New Jersey. This group of paintings has been designed as a tribute to the science of healing and to those great men of medicine whose devout selflessness has had an almost religious significance.

(Continued from page 608)

portan mejor después de la ligadura alta. Teniendo en cuenta que el paciente debe comenzar a andar una vez pasada la fase operatoria a fin de evitar trombosis y embolias, la anestesia en estas circunstancias debe ser local con una cierta medicación previa y en algunos pacientes muy nerviosos puede emplearse el pentothal sódico.

El sitio para la intervención quirúrgica es la fosa oval, debiendo ligarse todas las ramas de la unión safeno-femoral. La safena debe ligarse doble y aproximada lo más posible a la femoral. Para la inyección retrógrada empleo de 3 a 5 cc. de monolato. Es importante un vendaje firme pero no muy pretado.

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IMPORTA[illegible] NOTICE

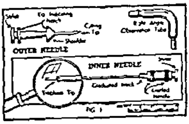
TO MEMBERS OF TH[illegible] STATES CHAPTER OF THE INTERNATIO[illegible] OF SURGEONS

Some time ago each [illegible] States Chapter received a copy of a "Questionnaire" f[illegible] st the Business Office in compiling certain important [illegible] up. The response to this mailing has been generous. However [illegible] forms have not yet been returned, the Business Secretary is *most [illegible] n to complete his records as* soon as possible. If you have not already [illegible] so, will you please complete and return your "Questionnaire" form *at your earliest convenience* to Mr. Ralph E. Osborne, 1512 Spruce Street, Philadelphia 2, Pa.

SCIENTIFIC EXHIBITS

The following have taken space for scientific exhibits at the Detroit Assembly —

HENRY TURKEL, M.D., AND ASSOCIATES



Booth No. 15

Administering Fluids Through Bone Marrow

DR. E. S. GURDJIAN

Detroit, Michigan

Booth No. 16

Brain Surgery

DRS. HARRY E. BACON AND LOWRAIN E. McCREA

Temple University Medical School & Hospital,

Philadelphia, Pennsylvania

Booth No. 17

Surgical Treatment of Rectal Cancer and Management of Association Vesical Dysfunction

A. A series of moulage models on electric turntable discloses various premalignant and malignant lesions. Based on a series of 460 cases of rectal and sigmoidal cancer pre- and postoperative management is presented; technic of surgical removal and eliminating the abdominal colostomy and means of preserving the sphincter musculature are shown. In spite of the high rate of resectability (81.3 per cent) the mortality is low (6.2 *per cent); the period of hospitalization is short (16.7* days); return to work early; the sphincter function is definitely good, 95 per cent of normal. The survival rate as to three year cure is 58.5 per cent and five year cure is 50.2 per cent both for palliation and cure. *B.* Kodachrome transparencies show normal distribution of nerve supply to bladder, the surgical distribution of the hypogastric plexus during proctosigmoidectomy. Another series of drawings depicts cystometric readings prior to, immediately following the surgical procedure and following return to normal. A series of moulage models shows various bladder lesions in association with rectal malignancy as viewed through the cystoscope.

JOHN PICK, M.D.

Chicago, Illinois

Booth No. 18

War Wounds

MT. CARMEL MERCY HOSPITAL

Detroit, Michigan

Booth No. 19

A Kodachrome Exhibit of Gallbladder Disease

This exhibit of over one hundred 3¼ x 4 inch kodachrome projections from the Laboratories of Mount Carmel Mercy Hospital, Detroit, Michigan, illustrates the various pathologic conditions found in the bladder. Acute, subacute and chronic cholec, cholelithiasis are emphasized. In addition, mounted gross specimens will be displayed.

DR. OTTO C. HUDSON

Hempstead, New York

Booth No. 20

Fractures in a Suburban Hospital

The exhibit will be 8 x 10 translite films of fractures seen in a Suburban Hospital. Various types of fractures and type of treatments will be shown. Problem fractures only will be exhibited with preoperative, postoperative and end result X-rays.

STRAITH CLINIC FOR PLASTIC SURGERY

Detroit, Michigan

Booth No. 21

Plastic Surgery

Exhibit will consist of numerous colored photographs and transparencies illustrating the usual problems of reconstructive surgery handled in a plastic surgery clinic.

ALFRED H. WHITTAKER, M.D.

Detroit, Michigan

Booth No. 46

Operative Treatment of Fractures of the Os Calcis

Exhibit is presented by means of photographs, drawings and transparencies, illustrating the conventional methods of treatment of fractures of the os calcis, the anatomical structure of the bone, the mechanics of the fracture, the difficulti[illegible] restoration are presented. Operative [illegible] with end results, and reduction of disability.

E. J. ORBACH, M.D.

New Britain, Connecticut

Booth No. 47

Therapy of Varicosities

(Technic, statistics and theory demonstrated by means of Kodachrome pictures, sketches, tables and 1 instrument.)

1. Sclerotherapy of varicose veins utilizing an intravenous air-block.
2. Blood-Kaolin-Penicillin Paste in the treatment of varicose ulcers.
3. Ligation knife facilitating subcutaneous ligation of varicose veins.
4. Ambulatory treatment of acute superficial thrombophlebitis.
5. Padded versus skin tight Unna's boot.

LAMSON LABORATORIES

Seattle, Washington

Booth No. 126

Lamson Appliance for Colostomy Control

The Lamson Appliance for Colostomy Control consists of a plastic disc to which a rubber [illegible] balloon is attached. The control is brought about by the inflation of the rubber balloon through a valve in the center of the disc after it has been inserted in the colostomy opening. The appliance is adjusted to each case so that the distance between the inflated balloon and disc equal the thickness of the abdominal wall.

R. C. CHAFFIN, M.D.

Los Angeles, California

Booth No. 127

Surgical Drainage by Continuous Suction

Exhibit is one to show the actual technique of continuous suction drainage of all surgical fields.

Moulages to show actual operation of the drainage by demonstration.

Diagrammatic drawings showing the Chaffin Drainage Tube in several fields.

Charts and statistical evidence that death should rarely occur from surgical infection.

DR. A. P. HUDGINS

Charleston, West Virginia

Booth No. 128

Office Method for Hystero-salpingography

A new self retained, screw type cannula with valve, permitting the injection of opaque media in the physician's office. The patient walks to the X-ray office, has one thirty minute flat plate and returns for removal of cannula. The cannula may be retained for twenty-four hours for therapeutic effect.

JOHN O. RAO, M.D.

Detroit, Michigan

Booth No. 129

Urologic Complications in Cancer of Cervix

WILLIAM E. JOHNSTON, M.D. AND DONALD C. BEAVER, M.D.

Detroit, Michigan

Tumors of Lateral Aberrant Thyroids

[illegible] aberrant thyroid tumors are of sufficient im[illegible] to warrant a better understanding of their [illegible]ction diagnostic criteria, pathology and [illegible] It is with this view in mind that this [illegible] prepared. The knowledge of lateral aberrant tumors was advanced through the contributions [illegible] Moritz, Cattell and others. Their [illegible] reviewed and new cases are added from the [illegible] hospital

DR. DONALD C. BEAVER

Woman's Hospital, Detroit, Michigan

Gynecological Pathology

TECHNICAL EXHIBIT[illegible]

Eleventh Nat[illegible] [illegible] Fro[illegible]
o[illegible]
United S[illegible] [illegible]
of t[illegible]
INTERNATIONA[illegible] [illegible] OF [illegible]
Ma[illegible]
Detroit, Michigan O[illegible]

The latest in pharmaceuticals, surgic[illegible] [illegible] products of special interest to surgeons will be on displa[illegible]

Members and visitors are urged to study these exhibits [illegible] will be arranged at frequent and appropriate intervals

Following are the names of the firms exhibiting and descripti[illegible]

MICHIGAN MEDICAL SERVICE

Detroit, Michigan
Booth No. 1

Largest voluntary prepayment medical surgical plan in the United States Charts of progress for past year and past six years of operation (a) Paid to Doctors for Services Rendered, (b) Number of Services Rendered; (c) Growth in Subscribers and Services Rendered; (d) Percentage of Income Paid for Administrative Costs; and (e) Assets and Liabilities

W. B. SAUNDERS COMPANY

Philadelphia, Pennsylvania
Booth No 2

Mr Frank Patterson will represent this publishing house and will exhibit its complete line of books including Bockus' 3 volume work on "Gastro enterology," new (5th) edition of Beckman's "Treatment" Allen Barker & Hines' "Peripheral Vascular Diseases," new (2nd) edition of Mason's "Preoperative and Postoperative Care," new (2nd) edition of Graybiel & White's 'Electrocardiography," new (3rd) edition of Andrews' "Diseases of the Skin," Cooke's "Allergy," new (5th) edition of Curtis 'Gynecology," Jackson & Jackson's "Diseases of the Nose Throat and Ear," (4th) edition of Mitchell & Nelson's "Pediatrics" and many others

ZIMMER MANUFACTURING COMPANY

Warsaw, Indiana
Booth No. 3

Mr C. A Fisher will be in charge of the Zimmer booth, which will have on display a representative line of fracture equipment, and will gladly demonstrate the use of any items in which the doctors are interested New items of interest will be Hopkins Hip Nail Extension, Two Speed Hand Drill, Bone Clamp Set, and many others

RANDOLPH SURGICAL SUPPLY COMPANY

Detroit, Michigan
Booth Nos 4, 5

SAM'S DRUG DEPT., INC.

Detroit, Michigan
Booth No 6

REXAIR, INC.

Detroit, Michigan
Booth No. 7

ORTHOPEDIC FRAME COMPANY

Kalamazoo, Michigan
Booth No 8

The Stryker Cast Cutter will be demonstrated This electric saw does not rotate but oscillates, thus cutting the cast, which is rigid but not the padding and skin beneath which gives with the oscillations You won't believe it, even when you see it

The Stryker Turning Frames used extensively in military hospitals and now available for civilian use, will also be demonstrated

D. R. COON COMPANY

Detroit, Michigan
Booth No. 9

SCHENLEY LABORATORIES, INC.

New York, New York
Booth No 10

The Schenley Laboratories' exhibit is devoted entirely to Penicillin and Penicillin products A series of trans[illegible] [illegible]s pyogenic skin infec[illegible] [illegible]cy of Penicillin Oint[illegible] [illegible] attendant will gladly [illegible] therapy and develop[illegible]

NUTRITION RESEARCH LABORATORIES

Chicago, Illinois
Booth Nos 11, 12

Nutrition Research Laboratories Booths 11 and 12 will feature Ertron Steroid Complex in chronic arthritis Both the oral and parenteral forms of Ertron will be displayed

Other products to be exhibited are Infron Pediatric in rickets prophylaxis and Bezon, high potency Whole Vitamin B Complex with Vitamin C

New clinical reprints and descriptive literature pertaining to our products will be available at the booths which will be attended by our representatives, Mr H H Baker, Mr F N Trankmann and Mr W F Vennard

AYERST, McKENNA & HARRISON, LTD.

New York, New York

Booth No. 50

"Premarin" is a potent preparatiod of naturally-occurring, water soluble equine conjugated estrogens containing sodium estrone sulphate as one of its estrogens. "Premarin" combines a high degree of potency with convenience of admidistration and is well tolerated by the patient. It is supplied with the approval of the Research Institute of Endocrinology, McGill University, and is accepted by the Council of Pharmacy and Chemistry of the American Medical Association.

WM. R. NIEDELSON

Detroit, Michigan

Booth No. 51

The first showing of the newest cardiographic improvement in years, the CARDIOTRON, a direct-writing type, will be made at our exhibit. This instrument will eliminate photographic processes, batteries, and give permanent records.

Also on view will be the latest model Jones "MOTOR-BASAL", the original waterless BMR unit.

WINTHROP CHEMICAL COMPANY, INC.

New York, New York

Booth No. 52

Winthrop Chemical Company, Inc., extends a cordial invitation to visit Booth No. 52 where representatives will gladly discuss the latest therapeutic contributions made by this firm.

A. S. ALOE COMPANY

St. Louis, Missouri

Booth No. 53

MEAD JOHNSON & COMPANY

Evansville, Indiana

Booth Nos. 55, 56

"Servamus Fidem" means We Are Keeping the Faith. Almost every physician thinks of Mead Johnson & Company as the maker of Dextri-Maltose, Pablum, Oleum Percomorphum, and ot[illegible] ing the new precooked [illegible] t all physicians are aware of the many helpful services this progressive Company offers physicians A visit to Booths Nos. 55 and 56 will be time well spent.

PHILIP MORRIS & CO., LTD., INC.

New York, New York

Booth No. 57

Philip Morris & Company will demonstrate the method by which it was found that Philip Morris Cigarettes in which diethylene glycol is used as the hygroscopic agent, are less irritating than other cigarettes. Their representative will be happy to discuss researches on this subject, and problems on the physiological effect of smoking.

D. C. LIVINGSTON PHARMACY

Detroit, Michigan

Booth No. 58

SCHERING CORPORATION

Bloomfield, New Jersey

Booth No. 59

The Schering exhibit will feature the latest developments in endocrine therapy, radiographic aids and other pharmaceutical advances.

Of particular interest is the presentation of Combisul-TD. Combisul-TD is a sulfonamide combination based upon the now proved therapy which offers the therapeutic benefits of sulfathiazole and sulfadiazine with a material decrease in the danger of renal toxicity and crystalluria.

Schering professional service representatives will be present to answer inquiries and to provide valuable, informative literature.

E. & J. MFG. COMPANY

Philadelphia, Pennsylvania

Booth No. 60

MICHIGAN BELL TELEPHONE COMPANY

Detroit, Michigan

Booth No. 62

AMERICAN SAFETY RAZOR CORPORATION

Brooklyn, New York

Booth No. 63

A. S. R. SURGEON'S BLADES inspire confidence. Designed for the surgeon by craftsmen who are specialists they are famous for their keenness, dependability, and assured balance Visit Booth #63 and convince yourself that there is an A S R SURGEON'S BLADE to meet your every surgical need

Also on view, A S R Sanitary Bed Pan Covers New revolutionary, made of paper, easily disposable, guarantee improved sanitary technic

SURGITUBE PRODUCTS CORPORATION

New York, New York

Booth No. 64

Surgitube

A seamless gauze fabric in tubular form, in rolls of 50 yards packaged in handy dispensing box Produced in five sizes for application as dressing to fingers, [illegible] feet, arms, legs, breasts and head. The [illegible] technique produces a degree of elasticity and [illegible] that insures easy application and ready re- [illegible] perfect conformation without any binding

DETROIT MEDICAL ARTS PHARMACY, INC.

Detroit, Michigan

Booth Nos 65, 67

The Detroit Medical Arts Pharmacy will feature Royal Chrome furniture for the doctor s office, Universal X Ray Machines Majestic Short Wave Units and a complete booth of Medical Arts Pharmacy and pictures of those who serve the doctors

SHARP & DOHME, INC.

Philadelphia, Pennsylvania

Booth No 66

Sharp and Dohme will have their display at Booth No 66 featuring Tyrothricin Concentrate for Human use 'Lyovac Normal Human Plasma Sulfathalidine and 'Sulfasuxidine" Messrs Held and Galbreath will be in attendance to welcome all visitors

MEDICAL FABRICS

Paterson, New Jersey

Booth No 69

MENNEN COMPANY

Newark, New Jersey

Booth No 70

The Mennen Company will exhibit their two baby products—Mennen Baby Oil and Mennen Baby Powder Borated in addition to their fungicidal foot powder—Quinsana their NEW prickly heat powder—Quicool and Mennen Skin Balm

Mennen Baby Oil is Antiseptic and is now being used routinely by the majority of hospitals that are important in maternity work

CIBA PHARMACEUTICAL PRODUCTS, INC

Summit, New Jersey

Booth No 71

Ciba invites you to visit its exhibit at Booth No 71 Among the products displayed will be PRIVINE a

J H EMERSON CO

Cambridge, Massachusetts

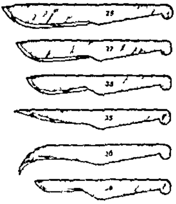
Booth No 72

All models of the Emerson Resuscitator for hospital ambulance and private practice use will be shown Also the Emerson Hot Pack Apparatus which heats moistens and wrings out packs in two minutes as well as late developments of the Emerson Respirator such as the Respiration Dome which breathes for the patient while the respirator is open

RUDOLPH BEAVER, INC.

Waltham, Massachusetts

Booth No 73



The Beaver knife is completely interchangeable—every blade fits every handle, only Beaver has new blade shapes that permit improved techniques the blades are ⅓ thicker without a hole and much stronger the blade is free from side obstruction of the handle it will not pick up gauze the holding mechanism is simpler and cleaner the blades are made with the grain of the steel at right angles to the cutting direction It is extensively exported

F E YOUNG & COMPANY

Chicago, Illinois

Booth No 75

F E Young & Co 422 E 75th St Chicago Ill Booth 75 Manufacturer of Young s Rectal Dilators The dilator set consists of a series of four bakelite dilators graduated in size and introduced in series as the anal sphincter becomes accustomed to dilatation They are supplied both in adult and childrens sets Rectal dilatation is used by surgeons post operatively after hemorrhoidectomy They are also used to treat certain cases of constipation rectal neurosis uncomfortable bowel movement and other conditions which may arise due to a tight or spastic anal sphincter

REED & CARNRICK

Jersey City, New Jersey

Booth Nos 76, 77

Since 1860 the high ethical and scientific ideals of the Reed & Carnrick laboratories have continued to merit the confidence and support of the American medical profession

Scientific research and rigid technical supervision assure the potency clinical efficacy and economy of all medicidal agents bearing the name

MAX WOCHER & SON COMPANY

Cincinnati, Ohio

Booth Nos 78, 79

J. F HARTZ COMPANY

Detroit, Michigan

Booth Nos 80, 81

The J F Hartz Company Detroit will be pleased to have the opportunity of exhibiting at the International College of Surgeons Booths 80–81

In addition to Hartz Laboratory Controlled Pharmaceuticals we will display physician's equipment and the latest in diagnostic and surgical

AMES COMPANY, INC.

Elkhart, Indiana

Booth No. 82

Demonstrating technics for the detection of urine-sugar, albumin and occult blood

Clinitest is a tablet method for the detection of urine sugar It is a copper reduction test which develops its own heat within the test tube

Albutest (Albumintest) is a reliable nonpoisonous noncorrosive tablet method for the detection of protein (albumin) It does not require heat

Hematest is a new, unique, tablet method for the detection of occult blood in feces urine and other body fluids It is a reliable procedure that can be carried out quickly by the physician public health worker or laboratory technician

LEA & FEBIGER

Philadelphia, Pennsylvania

Booth No. 83

At Booth 83, Lea & Febiger will exhibit among their books Babcock's Principles and Practice of Surgery, Bell on Renal Diseases, Ewerhardt & Riddle's Therapeutic Exercise, Scott and Van Wyck's Obstetrics and Gynecology, Stone & Dufault on Diagnosis and Treatment of Pulmonary Tuberculosis Quiring's The Extremities Soffer's Diseases of the Adrenals, Olkon's Essentials of Neuro Psychiatry New editions of many standard works will be shown.

BIRTCHER CORPORATION.

Los Angeles, California

Booth No. 84

The famous Birtcher 'Challenger' line short wave diathermy machines, the Birtcher major Electro Surgical Unit affording tube cutting and spark gap coagulation with the three pedal footswitch control affording the ability to mix electrical currents, the Birtcher "Hyfre cator" for electrodesiccation coagulation technics; a complete line of accessories for diathermy and electro surgical devices and the Birtcher Thorek electrode for electro surgical obliteration of the gallbladder Birtcher goods are distributed by authorized surgical dealers in 35 countries outside of the United States

OHIO CHEMICAL & MFG. COMPANY

Chicago, Illinois

Booth Nos 85, 86, 87, 88

"OHIO" will exhibit representative items of its several divisions Heidbrink Apparatus: gas anesthesia units, oxy [illegible] -uscitators Scanlan Morris [illegible] lights operating tables, Steri[illegible] e instruments and sutures Medical gases division anesthesia and therapeutic gases

DOHO CHEMICAL CORPORATION

New York, New York

Booth No 89

The Makers of "AURALGAN" are introducing at this Meeting their new sulfa drug preparation 'OTOMOSAN', indicated in the treatment and control of chronic suppurative ears Our representatives will be happy to explain in detail the workings of these medications Also to distribute our latest series of three (3) Anatomicopathologic Charts of the Ear in color, suitable for framing

S. J. TUTAG COMPANY

Detroit, Michigan

Booth No 90

HOSPITAL LIQUIDS, INC.

Chicago, Illinois

Booth No. 91

WILLIAM H. RORER CO.

Philadelphia, Pennsylvania

Booth No. 92

MARK EZRA COMPANY

Detroit, Michigan

Booth No. 93

The Mark Ezra Company Detroit Booth 93, will feature an original and most attractive display of medical jewelry and novelties This exhibit will be warmly welcomed by the physician and surgeon as the answer to "the perfect take home gift".

THE ALKALOL COMPANY

Booth No. 94

ALKALOL—unique alkaline saline solution—aqueous, non toxic, non-irritating hypotonic a mucus solvent.

IRRIGOL—aseptic effective powder which makes a solution for vaginal douching, colonic irrigations, rectal enemas

Ethically distributed through the medical profession for 50 years—since 1896

ARMOUR LABORATORIES

Chicago, Illinois

Booth No. 95

VAN PELT & BROWN, INC.

Richmond, Virginia

Booth No 96

GUDEBROD BROS. SILK COMPANY, INC.

New York, New York

Booth No. 97

TOWER COMPANY

Seattle, Washington

Booth Nos 99 and 100

DETROIT FIRST AID COMPANY

Detroit, Michigan

Booth No 101

PICKER X-RAY CORP.

New York, New York

Booth No 102

MEDICAL SUPPLY CORPORATION OF DETROIT

Detroit, Michigan

Booth No. 103

The display of the Medical Supply Corporation of Detroit will consist of articles of interest to the surgeon

DIETENE COMPANY

Minneapolis Minnesota

Booth No 104

Both Dietene's Accessory Feeding for use in high protein diets and Dietene Reducing Supplement will be on display with simple complete easy-to-follow diets which are available to physicians

GRUNE & STRATTON

New York, New York

Booth No 106

BRENNER AND KEFFER

Detroit, Michigan

Booth No 107

At the Brenner and Keffer booth will [illegible] artificial limbs, braces, arch supports and a general [illegible] of Orthopedic and Surgical appliances

MEDICAL PROTECTIVE COMPANY

Fort Wayne Indiana

Booth No 108

The most exacting requirements of [illegible] protection are those of the professional [illegible] The Medical Protective Company specializes in [illegible] protection for professional men [illegible] at their exhibit [illegible] George W [illegible] E Drew They are [illegible] liability underwriting

WILLIAMS & WILKINS

Baltimore Maryland

Booth No [illegible]

WHITE LABORATORIES, INC

Newark New Jersey

[illegible]

[illegible]

[illegible]

CAMERON SURGICAL SPECIALTY COMPANY

[illegible]

[illegible]

[illegible]

TECHNICON COMPANY

New York, New York

Booth Nos 112, 11[illegible]

The AUTOTECHNICON [illegible]

COMMERCIAL SOLVENTS CORP.

New York, New York

Booth [illegible]

H G FISCHER & CO

[illegible]

[illegible]

[illegible]

MEDICAL FILM GUILD

New York, New York

[illegible]

[illegible]

V MUELLER COMPANY

[illegible]

[illegible]

HACK SHOE COMPANY

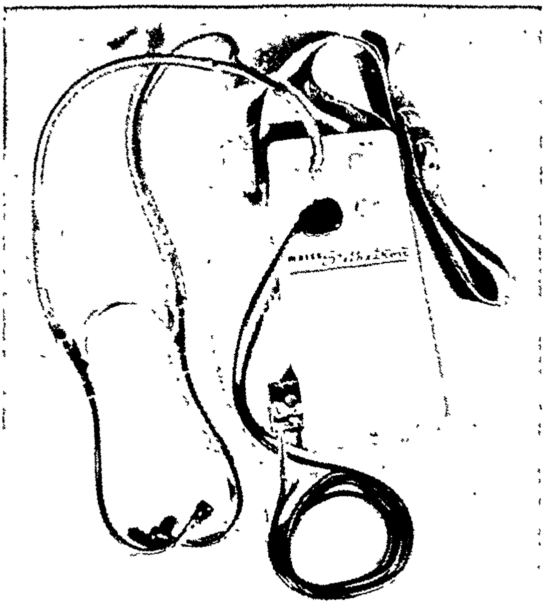
[illegible]

[illegible]

MAICO COMPANY, INC.

Minneapolis, Minnesota

Booth Nos. 120, 121



The Maico Company will feature Audiometers, Hearing Instruments, and the Stethetron, a new electronic stethoscope. L. A. Watson, president of the company, and Troy Grady, Detroit distributing technician, will demonstrate the equipment and answer questions. Physicians and Surgeons will be particularly interested in the Stethetron which permits selective amplification of important body sounds while subduing other sounds to convenient comparison levels.

CAMERON HEARTOMETER COMPANY

Chicago, Illinois

Booth No. 122

See the imp[illegible] a scientific precision instrument for [illegible] systolic and diastolic blood pressure [illegible] a permanent graphic record of the [illegible]us functioning of the myocardial response, as well as the functioning of the [illegible]. The Heartometer clearly reveals heart [illegible] in both early and advanced stages and is of [illegible] in checking the progress of medication and [illegible].

CANADIAN RADIUM AND URANIUM CORPORATION

New York, New York

Booth No. 123

High-purity Radium is available to the medical profession in any form and any type of container. A special exhibit is devoted to Alpha-Ray Therapy by the utilization of Radon in ointment. For further interesting details, call at Booth No. 123.

DAVIS & GECK, INC.

Brooklyn, New York

Booth No. 124 and Cinema Room A

Davis & Geck, Inc., manufacturer of surgical sutures exclusively, will display a line of sutures and suture-needle combinations applicable to every surgical situation. These will consist of D&G Thermo-flex and Claustro-Thermal catgut as well as non-absorbable s[illegible] D&G Dermalon, Surgilon, Anacap silk, [illegible]ures and others. Motion pictures fr[illegible] Library will be shown in Cinema Room A. Several new subjects will be presented. The company will be represented by Mr. Fred Geck.

THE UNIVERSITY PRESSES

Chicago, Illinois

Booth No. 125

The exhibiting of BOOKS FROM UNIVERSITY PRESSES is an out-growth of the American Association of University Presses. Each press represented is a separate publishing company devoted to the production of important technical and scholarly works which might otherwise go unpublished, as well as general books of vital interest and importance to all Americans. Because of their common goals, and because some of them are too small to sponsor exhibits alone, these presses have combined to present their books in a single group.

G. A. INGRAM COMPANY

Detroit, Michigan

Booth No. 131

STILLE INSTRUMENTS will be displayed at the exhibit of the G. A. Ingram Company, as well as other new and approved items.

(The above list is as complete and accurate as it was possible to make it at the time of going to press.)

BE SURE TO VISIT EVERY BOOTH

There is much that is new and interesting.

To our business friends in the Technical Exhibit, the United States Chapter, International College of Surgeons, expresses sincere thanks for their splendid cooperation and very tangible contribution to the expected success of the 1946 Assembly.

News Notes

Dr Rudolf Nissen, of New York, has been offered the Chair of Surgery at the University of Hamburg Germany Dr Nissen was formerly Associate Professor of Surgery at the University of Berlin, also Professor and Head of the Department of Surgery at the University of Istanbul, Turkey At the present time he is Senior Surgeon at the West Side Hospital and Dispensary in New York City, and Attending Surgeon at the Brooklyn Jewish Hospital, Brooklyn, New York

The National Gastroenterological Association has announced the winner of its 1946 Cash Prize Award Contest for the best unpublished manuscript on Gastroenterology or an allied subject

The winning contestant was Capt Irving B Brick, M C, A U S whose paper on "Radiation Effects on the Human Stomach A Preliminary Report" was selected by the judges The check for $100 00 was presented to Capt Brick at the Annual Banquet of the Association held at the Hotel Pennsylvania on Thursday evening June 20 1946 The presentation was made by C J Tidmarsh M D First Vice president of the National Gastroenterological Association

Certificates of Merit were also awarded to Frank L Apperly M D Richmond Va, William Nimeh M D Mexico City, Mexico, and Juan Nasio, M D Rosario, Argentina The winning paper as well as those receiving Certificates of Merit will be published in the Review of Gastroenterology commencing with the September–October 1946 issue

News from South America **Peru** The Peruvian Academy of Surgery gave a testimonial celebration to Prof Francisco Graña F I C S (Hon) upon the occasion of his election as President of the International College of Surgeons This ceremony was carried out in two parts the first of a clinical nature was held in the Hospital Obrero of Lima the second in the Academy proper was presided over by the Minister of Public Health and Social Aid of the Republic Dr Julio Ernesto Portugal F I C S (Hon) The clinical portion of the program was tendered by the Superintendent of the hospital Dr Guillermo Almenara and consisted of surgical presentations by distinguished hospital colleagues At [illegible] Academy testimonials were offered by [illegible] the institution Dr Francisco [illegible] F I C S Prof Fortunato [illegible] F I C S (in the name of the [illegible] Medicine Dr Carlos Alberto [illegible] S (in the name of the Dos de [illegible]) and Dr Jos Valez Diez [illegible] F I C S (in the name of the Hos[illegible] Dr Graña responded with [illegible] speech of appreciation [illegible] closed with some effective [illegible] the chairman Dr Portugal [illegible] Academy of Surgery also [illegible] celebration in honor of Prof Dr Miguel G Aljovin F I C S (Hon) [illegible] also took place in Lima

Argentina The distinguished surgeon Prof Dr Oscar Ivanissevich F I C S, has just been appointed Argentinian Ambassador to the United States

Venezuela Word has just been received of the recent death of Prof Dr Antonio J Castillo F I C S (Hon) Rector of the Central University His death occurred but a few days after his twenty fifth professional anniversary

Mexico Prof Dr Gonzalo Castañeda, F I C S (Hon), president of the Mexican chapter of the College, has recently published a new book entitled, "Ideario Clinico"

Drs Hector Ramirez de Arellano, F I C S, and Mario Vergara Soto M I C S have recently been elected to the Mexican Academy of Surgery Other members of our College also elected to the same body include Prof Dr Ugo Pinheiro Guimarães of Rio de Janeiro Brazil Prof Dr Antonio Rodriguez Diaz of Havana Cuba and Prof Dr Domingo Prat of Montevideo, Uruguay, each of these distinguished colleagues has been chosen to act as Corresponding Foreign Academician

THE FIFTH INTERNATIONAL ASSEMBLY
of the
INTERNATIONAL COLLEGE OF SURGEONS
Lima, Peru. March 24–27, 1946

Opening Session

At the invitation of the Peruvian Government, the Fifth International Assembly of the International College of Surgeons was held in Lima, Peru. The Assembly was under the general chairmanship of Dr. Francisco Graña, President-Elect of the College, Peruvian surgeon of note and presently serving as President of the National Academy of Medicine. Under his direction and with the assistance of the Peruvian Academy of Surgery, the program of the meeting was excellent and the Assembly a brilliant success. The hospitality of the Peruvian Government and of the city officials of Lima and the coöperation of the Peruvian scientific societies together were responsible for the outstanding success which the Assembly proved to be.

Prof. Dr. Francisco Graña, President-Elect, International College of Surgeons.

La Reforma Medica praised the devotion of the organizers of this Assembly and expressed to Dr. Graña its sincere congratulations for the honor he had received through his election to the status of President-elect of the College for the present term.

The inaugural session, on Sunday the 24th of March, at 7 P.M., in the Municipal Theatre of Lima, was presided over by the President of the Republic, Dr. José Luis Bustamente y Rivero, Benefactor, Honoris Causa of the College, with the assistance of the Ministers, the Diplomatic Corps, the Rector and Deans of the Greater University of San Marcos and the presidents of the Academies and Medical Societies. On this occasion, addresses were delivered by the general chairman, Dr. Francisco Graña; the President of the Peruvian Academy of Surgery, Dr. Flipe A. de la Torre; and the International Secretary-General, Dr. Max Thorek. Greetings from the Presidents of the delegations in the names of their respective governments were read. At the conclusion of this session, the President of the Republic declared the Fifth International Assembly of the International College of Surgeons to be officially open.

On Monday the 25th, the Assembly met from 9:20 A.M. to 12:30 P.M. and from 3 to 7 P.M. in the auditorium of the Hospital Obrero of Lima when scientific papers were read. Surgical operations were performed by local surgeons and delegates from 8 to 10 A.M., in a number of hospitals designated for this purpose. Special cinematographic demonstrations of surgical procedures were displayed at the Hospital Obrero also.

On Tuesday the 26th the Assembly met again at the same place and hours as on Monday when further scientific papers were read

On Wednesday the 27th the scientific session was limited to the morning hours and was presided over by the President of the Peruvian Academy of Surgery At this session the work of national surgeons was presented The final gathering was held in the afternoon of that day, in the auditorium of the Hospital Obrero and was presided over by the Minister of Public Safety Dr Julio Ernesto Portugal Member Honoris Causa of the institution

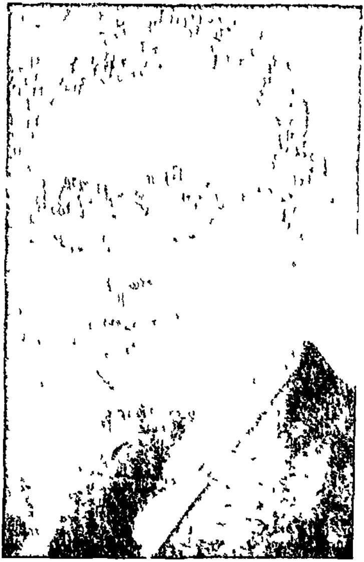
An address was presented by the President of the College Dr Albert A Berg The address of the Minister was responded to by a delegate chosen for this purpose by the foreign delegations

At 9 30 P M a banquet was tendered by the Peruvian Surgical Academy in honor of the foreign delegates The presidents of the Academies of Medicine and of Surgery of the Peruvian Academy of Stomatology as well as the Secretary General of the Medical Association Daniel A Carrion and others were the speakers These addresses were responded to by delegates selected from the foreign delegations

On Thursday the 28th at 9 A M the delegates visited the Anthropological Museum of the Magdalena Dr Julio C Tello, Director of the Museum demonstrated and explained Peruvian archeology At 5 P M, the same day, the President of the Republic held a special audience for the delegates and their families, and from 7 to 9 P M, the President of the Council of Ministers and the Minister of Public Health and Social Aid tendered a reception in the Palace of Torre Tagle, in the name of the government

On Friday the 29th, the Mayor of the Municipality of Lima gave a reception for the delegates and their families in the Municipal Palace from 7 to 9 o clock in the evening

The Solemn Inaugural Session was held at the Municipal Theatre The stage was decorated with the national flags of all the countries having delegates participating in the Assembly The solemn ceremonies opened at 7 P M under the Presidency of Dr Portugal assisted by Drs Graña de la Torre Ibor also Drs Fortunato Quesada Director of Military Health Lizardo Alzamora Dean of the Faculty of Law (representing the Rector of the University of San Marcos Carlos Monge and other notables Guests of honor were the President of the Republic the Mayor and Councilmen of Lima, members of the Diplomatic Corps political leaders the clergy and other socially prominent persons A large number of surgeons filled the body of the theatre The addresses delivered upon this occasion follow



Dr Manuel A Manzanilla F I C S (Hon), Mexico, D F, México, Vice President of the International College of Surgeons

(Address of Dr Francisco Graña)

“Mr President of the Republic Gentlemen
“The solemnity of this oc
minating interest stems from
scientific character, is only

the President of the Republic, the Ministers of State, the Rector and Deans of the Faculties of our illustrious University of San Marcos, members of the Diplomatic Corps, Presidents of our Academies and medical associations, teachers, investigators, students, who nourish, we are sure, in these hours so serious and extremely disquieting to all humanity a sincere faith in the efficacy of science and in the applications of solidarity in the great work of world reconstruction. And it is fitting to recognize in this convocation of the International College of Surgeons and the Peruvian Academy of Surgery, a new and vital force in the exaltation of these supreme values which constitute the fundamental bases of human culture.

"Even in the most remote legends of primitive civilizations are found the purposes realized by man, originally wrapped in myths and superstititions, to interpret the significance of the natural elements, the cardinal facts of existence, the origin and object of life, the causes of death and their relationship to the great sidereal phenomena; forces which represent in reality the first vestiges of the physical and biological sciences.

"And in the course of time, across the infinite forms of social organization adopted for humanity, were born the hypotheses, the theories, the means of exploration and judgment, the scientific methods, finally, which developed slowly and progressively, were scattered and purified, thanks to the efforts of generation after generation, which, passing over all the roads which lead to the exploration of the unknown, discovered unsuspected horizons for each stage of human knowledge. The culmination of this prodigious evolutionary process, which is the sum of the experience of a thousand centuries, will be represented by these systems of truth, each time closer to the immutable and perfect, which constitute the gigantic structure of contemporary universal science.

"In reality, science presides over or participates in, all of the aspects of human life, not only in those which specifically constitute the patrimony, physical, material and biological, but in all the others, of social, pedagogical or juridical character; and in the arduous tasks of government from which stem, then, the vital principle of the organization, the severity and justice of criticism, the valuable precepts of method, the revelation of general principles and those of comprehension and equity, capable of balancing or correcting the perpetual antagonisms of collective life.

"Such high functions are in harmony with the correctness of the procedures, where exactitude reigns supreme with its essential mission which is to find the truth, the infallible anticipator of good and justice.

"But in the eternal succession of antimotic periods which compose human history, those of peace, in reality preparatory for aggression or defense, and those of violence or extermination, science follows an unmistakable path of admirable technical progress, whose explanation, nevertheless, is profoundly and grievously contradictory. Before a serene and objective judgment, it appears, rather, that its cultivators sharpen the inventive faculty and devote more pains to discovering the agents of pain and death, than those capable of obtaining the well-being and happiness of men.

"And we make these deductions from a field of science which shows an untarnished history. Medicine, which is one of the heroic professions, has given itself always, wholly, to protection of life and alleviation of men's pain, in the midst of the greatest calamities of history.

"The great tragedy, which still devastates the world, is based precisely on the use of science for destructive purposes and which is not explained by an obstinate denial of itself or the incessant ardor for destroying whatever is noble, useful and beautiful, created and perfected itself only by the persistence of traditional errors and the lamentable lack of general culture of the people.

"So, men as well as scientific institutions have been led by or are dependent on official organizations, which alone provide the means of action, but which do not grant them the determination of boundaries. On the other hand, science is still the patrimony of the very few, not in regard to investigation and study, which must correspond to compact, select groups, but in regard to its utilization by the majority of men of all those benefits which have an experimental, useful and logical base.

"The modification of such circumstances implies, then, renewing determined bases of social and governmental organization still in operation, and giving new impetus to the teaching and spread of science, of whose beneficent application to the great human necessities only scientifically educated peoples may enjoy the advantage. Others will not be easily and immediately conquered, but if present generations do not wish to march backwards to their own destiny, they will have to follow it with the most intrepid eagerness.

"During the past century there have operated in the world more profound changes than at any other epoch in history, and it is well appreciated that on all of them is imposed a common character, which is universality. Distances virtually do not exist. All the events of the world occur simultaneously and with solidarity. Scarcely a hundred years ago the village, the city, the nation constituted an autonomous unit; today the unit is the world. And this progressive movement is paralleled by the amplification of solidarity, which formerly demanded the cohesion of a town, later a group of towns, and today tries to include all the towns of a land.

"There is no necessity more peremptory and urgent than this harmony, and this conjunction of ideals, whose object is not to equalize all men, but to provoke a just and stable equilibrium, since heterogeneity and hierarchies obey immutable biological laws, springing from a difference in aptitudes and human tendencies. Differences essential, moreover, to the fulfilment of the multiple and essential functions of social life. The only equality, beginning and end of all jointly liable movement, is equality before Law and Justice. But it is not enough to scatter, in passing, on the minds of men, ideas, advice and admonition; the use of will and the example of action are necessary, because even the most wholesome and useful principles only become rooted in the majority of men when they are profoundly understood and loved.

"The celebration of this Assembly of the International College of Surgeons and the First Peruvian Surgical Conference, which will signalize a brilliant epoch in the life of these institutions, has that significance, a living and fecund lesson, to which contribute with their zest and abnegation, men of science, masters, investigators, visitors from numerous countries, who, united to us, bind themselves to unify knowledge, practices, technics for which, scattered through the world, they best fulfill the holy work of protecting the health and life of mankind

"And the moment is ripe for it because, on the ruins left by the great crises of history are always raised the revivifying and optimistic structures of renewal and progress

"We have faith in the outcome We hope that Science, whose stage is the world, will have no other destiny than the search for truth, that justice and solidarity penetrate ever deeper into the hearts of men, that the observance of an elevated moral illumines its steps, in order that they may fulfil their principal end of common good, heedful, above all of the Supreme Judgment of God"

(Applause)

(The address of Dr Felipe A de la Torre, President of the Peruvian Academy of Surgery follows)

"Mr President of the Republic

"It is a signal honor for me to address this magnificent assembly, which acquires all its prestige and brilliance from the quality of the persons who give it lustre by honoring us with their presence My modesty is impaired as I address you, scientific authorities of the countries of all the continents and of my fatherland, who are united in our city to celebrate the Fifth Assembly of the International College of Surgeons I salute you in the name of the Peruvian Academy of Surgery, because on this occasion, with the gift of your presence and the formidable burden of knowledge which you bring will be treated the problems of the surgical specialty in our First Peruvian Conference on Surgery

"There is not, surely, among the positive principles which link men to society, any which, like cooperation, raises such distant margins of human hope toward a better world It strengthens and solidifies the chains of chance, or creates new ones, or opens the way so that collective or multiple force may be transformed into beneficence For this reason, cooperation becomes universal Any politics, pure technic, science and investigation proclaim it For this reason, it acquires day by day its moral tone, with profound roots in sociology, because cooperation must be a rule for all men of all sectors of the social order, to cooperate to dignify life and its functions, to set the course toward success, to defend it from destruction and ruin, or to cooperate, finally, to affirm it in the loftiest proposals or for the purest ends of eternal salvation All this demands unity of effort in order that the decisions of the will may be efficacious To cooperate each time more closely to unify and strengthen the multiple forces, and bring it about that the destiny of each human group in its own national order, or that of each national group in the vast scope of entire humanity may be one, illustrious, and good

"The isolation of men and of nations now has its origin lost in distant and obscure phases of history Men in the modern world cannot exist alone, they are thinking with great intensity of marshaling their forces to obtain results in an ever greater volume and of finer quality There is now practically no activity which escapes this inevitable gravitation and in the order of scientific cooperation we have had ours, the undeniable superiority of having registered through our international contacts, no opposition of interests, but of logical counter positions, given that scientific effort always has universal consequences The true, sane, scientific vocation is totally removed, or ought to be from the false tinsel of vanity This is the principle which has guided international meetings of a scientific character So distant from daily turmoil, the works of men of science often serve only as simple information for Assemblies Conclusions live only in the world of theories The contacts of these Congresses, our own international contacts, are work sessions of technics patiently evolved in order that their excellence may be judged, not only for the technic but also for the creative genius which is so far apart from the mechanical means, in order to apply to the scientific action its proper concept

"And this, gentlemen, is action realized in spite of the inconveniences of the distances which separate our peoples This is the action of scientific congresses which unite us materially and transitorially, but [illegible] us in the pursuit of professional life a [illegible] of incomparable richness, and, who knows? perhaps some new element of psychological character for our capital of scientific will This great work of scientific cooperation is of first rank, we must give recognition to medical science, because we are far from thinking that scientific knowledge of materia medica has reached incontrovertible levels To so state would be equivalent to unacceptable evidence It would be harmful and inconvenient for the proper unfolding of our science It would be equal to paralyzing all effort It is timely, since this is a common meeting place, to declare that medical science for its increasing excellence needs this perennial restlessness which constitutes the fundamental basis of success and triumph

Today Peru has the honor of giving us the necessary shelter, so that as men of science we may have a corner of the world where we may concentrate the flight of our scientific thought It is a signal honor and a satisfaction of our hospitality to lavish warmth and friendship to make your presence a happy one, to answer once more the call of our feelings of fraternity, in order to permit us to think over carefully and responsibly whatever pertains to health and the life dependent on our hands We leave you the necessary silence We shall not place any hindrance to your task, neither talk which would harm you, nor question as to the presumption and ability which make you undertake the visit This is your home Here are peace and the faith necessary to mediate freely The problems of the hour have the gravity of all urgent matters Modern life is dynamic and active, but it is also grievously influenced by certain events War has left its residue of confusion in all spirits It has opened doors to the violence of men, but surely has left others half open to permit human genius to be liable to the risk of its own annihilation Science in the midst of all this negative spectacle, is enriched, nevertheless because science represents the reaction of the life of humanity which does not wish to disappear So that, in the midst of negation and battle, medical science has enormously enriched its annals serving in the midst of clamor to lessen pain or to remake and save the precious element that is human life

"All this because our professional solidarity is really a gift which we make to human society it is one more hope for those who suffer pain in their own flesh It is an aid for those who believe in the necessity of affirming the security of the health and progress of human kind And if it is a question of peace, our science ought to be enriched further to ensure that the home continue, society be tranquilized and freely separated from dangerous nostalgias or from the toils of death For this reason our reunion in this solemn Fifth Assembly of the International College of Surgeons must synthesize points of view from other latitudes and ours in the common engagement of the fight against evil

"I must express to the illustrious colleagues who honor us with this visit, in the name of the Peruvian Academy of Surgery, its gratitude for the contribution of their presence in lending prestige to the First Peruvian Surgical Conference Fate has willed that this conference on Peruvian problems and surgical works may increase the volume of intelligence ensued by your presence; for this accept my word of personal gratitude, as well as for the fact that with such promising auspices, and enlightened scientific aid, the First Peruvian Congress of Surgery can be no less than a complete success

"We unite our activities because a universal consciousness of good joins our wills, superior to one, in one religion in an hour so *momentous for humanity*, and in a moment as moving as this let us so strive, that by a common effort, with a conquering spirit, with unshakable faith in the great destinies of humanity, raising our hearts above human miseries, let us work for the well being of all the inhabitants of the earth " *(Applause)*

Professor Graña then read the communication of Professor Nissen in Spanish

Senor Presidente y delegados a la quinta asamblea Internacional del Colegio Internacional de Cirujanos Hay dos emociones que conservo hasta este dia de la sección de apertura de la casa de delegados del Colegio Internacional de Cirujanos Una es de alegria y la otra de pena Siento que no he estado en el destino el poder estar con Uds en esta hora de actividad y regocigo por causa de impedimentos invencibles que impide mi asistencia Me alegro porque esta asamblea tiene lugar en su bello país y marca un punto brillante en el constante exito ascendiente del colegio Sirvanse aceptar mis sinceras felicitaciones y profundos deseos para su exito lo cual seria mas agradable para mi presentarselo en persona si fuera posible

La historia del colegio el cual he observado desde sus principios con placer y alegria hasta su presente desarrollo, es la pruebe mas incontravertible que una noble idea basada en la verdad y valor siempre tendrá éxito a pesar de todos los impedimentos y vituperaciones "La verdad impone su victoria sobre todas las cosas " No es necesario afirmar que el colegio tiene una dueda profunda con su brillante presidente el Professor Doctor Francisco Graña y con los colegas que le ayudaron a hacer de esta asamblea el exito que seguramente va tener Apreciamos en todo su valor el sacrificio personal de los fieles y abnegados socios del colegio quienes sin consideracion de tiempo distancia y clima, han reunido sus esfuerzos para que esta reunion culmine en el éxito Siempre tendremos en cuenta que nuestra organizacion basada en ideales humanitarias conseguira inculcar en cada uno de los constituyentes el ideal comun hacia que todos luchamos

Nunca hubo tiempo alguno en la historia del esfuerzo humano en que la comprension internacional en todas las etapas de la vida sea tan importante y tan esencial como en nuestros dias Los antecedentes de esta terrible guerra que todos hemos vivido, nos ha traido a la realizacion de los defectos de nuestra vida internacional Hablando con mas claridad ha mostrado las tendencias criminales y las injusticias del hombre para con el hombre Y bajo la cabeza avergonzada de colegas nuestros que han suscrito su nombre a practicas tan nefarias en algunas partes del mundo llamado civilizado

No veo ideal mejor para el cumplimiento de una paz permanente, que cualquier organizacion internacional pueda buscar, que la organización que cultiva alimenta y desarrolla entre sus miembros el amor de la humanidad, y por la misma razón expone y detesta aquellos que se han apartado de le senda del la justicia y deliberadamente violado la ley del respecto del hombre y sus prerrogativas divinas "La libertad de practicar las actividades eticas, o que en conspiracion con otros deshonra y humilla a los hombres y que directa o indirectamente suscribe y ayuda los conceptos barbaros de conquista y degradacion vergonzosa " Recordemos pues en esta organizacion el colegio internacional de cirujanos, que tratamos de hacernos grandes y dignos de nuestra mision

Relativo mi informe sobre las actividades Europeas, quiero reportar "Progreso " He estado en correspondencia con muchos de los sobresalientes cirujanos en el Continente Europeo durante esta tragedia mundial, y manteniendo nuestras ideales en el pensamiento, he labrado solamente con ellos que han suscrito a los principios del Colegia Espero hacer un vije a Europa en los intereses del Colegio durante del mes de Julio y trataré de empeñarme en su nombre Al cumplirlo, someteré mi informe a la *Junta Directiva, pero, mientrastanto,* como en el pasado, Uds pueden estar seguros que haré todo lo posible para procurar lo que es justo, derecho y honrado en nuestra protección

An English translation of Prof Nissen's message follows

Mr President and Delegates to the Fifth International Assembly of the International College of Surgeons

There are two emotions which I preserve on this day of the Opening Session of the House of Delegates of the International College of Surgeons one of joy and one of sorrow I am sorry that it has not been willed that I be with you in this hour of activity and rejoicing because of impediments which prevented my attendance I am joyful because of this Assembly in your beautiful country, which marks a brilliant milestone on the constant ascent of the College to achievement Please accept my sincere congratulations and profound good wishes for success which I would be happier to extend to you in person if it were at all possible

The history of our College, which it has been my pleasure and joy to observe from its very beginning to its present worthy state of development, stands as incontrovertible proof that a noble idea will *always* succeed, regardless of hindrances and vituperations

It is needless to state that the College is much indebted to its splendid C[illegible] cisco Graña, and to all t[illegible] him in making this Assembl[illegible] promises to be We are [illegible] personal sacrifices, of th[illegible] College who, regardless o[illegible] have pooled their endeav[illegible] nation of this gathering [illegible] in mind that our organization [illegible] *humanitarian ideals*, will [illegible] every one of its constituents [illegible] for which we are all striving

At no time in the history of [illegible] international understanding in [illegible] important and so essential [illegible] The antecedents of this terrific [illegible] by all of us have brought into [illegible] defects of our international life To be more specific, it has shown the degrading tendencies and injustices of men toward men

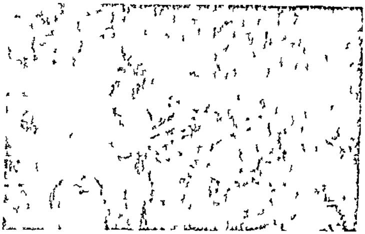
I can see no better ideal for the achievement of a lasting peace that any international organization may strive for than that organization which cultivates, nurtures and develops among its constituents the love for humanity and by the same token exposes and detests those who have strayed from the paths of righteousness

As to my report on European activities, I report "Progress" I have been in communication with many surgeons on the European continent during this world tragedy, and I have, keeping our ideals in mind, cultivated only those who subscribe to the principles of the College I am planning a tour of Europe in the interests of the College in the near future and I shall exert every influence in its just behalf I will then submit my report to the Board of Trustees, but meanwhile as in the past, you may rest assured I will continue to strive for what is just, right, and honorable in our profession

(Dr Max Thorek, International Secretary General of the College, spoke in Spanish His address follows)

Excmo Senor Presidente de la República
Senores Ministros de Estado
Honorable Cuerpo Diplomático
Rector de la muy Ilustre Universidad Nacional de San Marcos
Presidentes de las Academias de Cirugia, Medicina y Estomatologia y Sociedades cientificas
Oficiales Delegados, y Miembros de la Asamblea del Colegio Internacional de Cirujanos, Senoras y Senores

La medicina, protectora de la humanidad, habiendo sobrevivido la ultima gran guerra, esta luchando por sobrevivir en la paz beligerante La colaboración medica entre las naciones unidas era tan esencial para fortificar nuestra defensa contra la enfermedad, como lo era para ganar el dominio sobre el enemigo común Queremos decir por supervivencia la continuacion de las labores cientificas en la profesión medica sobre la cual se basa nuestra tarea de conseguir los obras humanitarias, estableciendo un porvenir nacional, como depende la estrategia militar de las armas y municiones para alcanzar el triunfo definitivo *Con el tiempo, de este porvenir nacional,* nacerá una conciencia internacional en lo que se refiere a las relaciones de interdependencia *mutua*



P[illegible] Tej[illegible] [illegible]anza addressing the Assembly at the inaugural session of the International College of Surgeons in the Municipal Theatre, Lima, Peru

Así que esta primera asamblea de la post guerra del Colegio Internacional de Cirujanos senala una epoca Además la asamblea se reune en el pais de una de las civilizaciones mas *antiguas*, los Incas Con ellos tenemos una deuda eterna por habernos legado algunos de los procedimientos quirurgicos y medicinales ahora usados comunmente Celebramos tambien esta nueva época como la mas grande que la medicina la cirugia y las ciencias afines han conocido En estos ultimos cinco anos la ciencia ha hecho enormes progresos

La mano que cura la mente y el cuerpo de los hombres debe tambien, por la misma razon, restaurar la conciencia economica, social y politica del mundo Por esta razon, la obra del Colegio Internacional de Cirujanos se presente con gran importancia Como las [illegible] y frecuentemente los errores humanos la [illegible] no tiene sexo, raza ni fronteras territoriales Es internacional y completamente intercosmica Hoy en dia estamos unidos por lazos de hospitalidad y propositos con nuestra hospitalaria Republica del Peru Pero nuestros lazos van mas lejos historicamente puesto que uno de los hombres en la lucha por la independencia de este gran pais fue Americano, Paul Jeremiah, que sirvió de agente a O'Higgins en los movimientos secretos en mil ocho cientos diez y nueve En el Peru de los Incas donde la civilizacion *alcanzo* el mas alto grado, la medicina llego tambien a su mas alto desarrollo En la cirugia, la reduccion de fracturas, la circuncisión, la sangrias, la reduccion de dislocaciones, las amputaciones y el uso de suturas eran bien conocidas, el mas alto desarrolo quirurgico consistia en las famosas trepanaciones Ademas el Peru estuvo a la cabeza de Sud America en el establecimiento de hospitales, el primero el de San Bartolome fundado en mil quinientos cuarenta y ocho El Padre Padilla, en mil seis cientos cuarenta y seis, fundo el primer hospital para negros *Terapeuticamente*, estamos eternamente agradecidos a los Incas por el uso de la quina No debemos olvidar tampoco que fue en el Peru donde la Cruz Roja tuvo su primer impulso en estas tierras

Con tal tradición no nos *sorprende* que el Peru haya invitado al Colegio Internacional de Cirujanos para reunirse en esta su bella y culta Capital Nosotros, los miembros de la asamblea y nuestros hospitalarios amigos, debemos recordar que los que *hacen el juramento de Hipocrates y siguen lospasos* de Esculapio llevan la carga de la hermandad humana debilmente impresa en el alma

"La science n'a pas de patrie," es lo que nos hace hermanos por el mundo entero. Por eso esperamos con ansiedad los aspectos finales de la paz planeada en la conferencia de San Francisco, no sólo la paz en el frente de batala, sino la paz en el frente de la salubridad pública. Depende de nosotros, los socios de esta verdadera asamblea internacional, cimentar la paz por la que nuestros hermanos y nuestros hijos han *luchado* tan duramente. No debemos decepcionarlos.

Naturalmente, la carga cae más pesadamente sobre los que enseñan y *practican* las ciencias médicas. Porque han de servir a un mundo *caótico*, que sufre los dolores gloriosos de la maternidad. Nada puede salvar al mundo sino el *nacimiento* de la criatura mas fuerte que llevado en si la *hermandad* del hombre. Recordamos, sin embargo, que los años de la infancia son días de crisis. El niño necesita el cariño y el cuidado tanto como el alimento del cuerpo y el abrigo. Si esta criatura ha de vivir y prosperar, ha de ser apreciada en el corazón de todos los hombres, y por este aprecio todos los hombres se encontrarán revitalizados.

Se ha dicho que el corazón humano es como la piedra del molino; cuando se pone trigo debajo, da vueltas y muele y tritura el grano hasta que se hace la harina. Si no se pone trigo, la rueda continúa moliendo, pero se muele a si misma y se desgasta lentamente. Esto es precisamente lo que las naciones del mundo han estado haciendo con sus luchas eternas y su rechazo de la hermandad, destruyendo el grano del espíritu. Han olvidado poner el trigo en el corázón humano, y este olvido ha *causado* que el corazón del mundo se desgaste solo.

Por consiguiente, si hemos de cumplir con las doctrinas de la paz y la hermandad del hombre, nuestro deber no sólo es nacer nuestra criatura, sino alimentarla, guiarla y enseñarle los caminos de la paz, la unidad y la fraternidad humanas.

(A translation of Dr. Thorek's address follows.)

"Your Excellency, the President of the Republic;
"Ministers of State;
"Honorable Members of the Diplomatic Corps;
"Rector of the very illustrious National University of San Marcos;
"Presidents of the Academies of Surgery, Medicine, and Stomatology, and scientific societies;
"Officials, Delegates and Members of the Assembly of the International College of Surgeons:
"Ladies and Gentlemen:

"Medicine, protectress of humanity, having survived in the last great war, is fighting to survive in a belligerent peace. Medical collaboration among the United Nations was as essential to fortify our defense against infirmity as it was to gain dominion over the common enemy. By 'survival' we mean the continuation of scientific works in the medical profession on which are based our task of accomplishing humanitarian efforts establishing a national future, as military strategy depends on arms and munitions to achieve the definitive triumph. With time, from this national future will be born an international conference insofar as it is a question of mutually independent relations.

"Thus this first post-war Assembly of the International College of Surgeons signals an epoch. Besides, the Assembly is meeting in the country of one of the oldest civilizations, that of the Incas. To them we owe an eternal debt for having bequeathed us some of the surgical and medical procedures now in common use. We also celebrate this new epoch as the greatest which medicine, surgery and related sciences have known. In this last five years, science has made enormous progress.

"The hand which cures the mind and body of men must also, for the same reason, restore the economic, social and political conscience of the world. For this reason the work of the International College of Surgeons is of great importance. Like the arts, science has no sex, race or territorial frontiers. It is international and entirely intercosmic. Today we are united by bonds of hospitality and purposes with our host, the Republic of Peru. But our ties go further historically, since one of the men in the battle for the independence of this great country was an American, Paul Jeremiah, who served as an agent to O'Higgins in the secret movements in 1819. In the Peru of the Incas, where civilization reached its highest point, medicine also attained its highest development. In surgery, the reduction of fractures, circumcision, blood-lettings, the reduction of dislocations, amputations, and the use of sutures were well known; the highest surgical development consisted in the famous trephinations. Besides, Peru was in the lead in South America in the establishment of hospitals, the first that of San Bartoleme, founded in 1548. Father Padilla, in 1646, founded the first hospital for Negroes. Therapeutically, we are eternally grateful to the Incas for the use of quinine. We ought not to forget either that it was in Peru that the Red Cross had its first impulse in these lands.

"With such a tradition it does not surprise us that Peru has invited the International College of Surgeons to meet in this beautiful and cultured capital. We, the members of the Assembly, and our hospitable friends must remember that those who took the oath of Hipprocates and follow in the steps of Aesculapius carry the burden of human brotherhood doubly imprinted on the soul.

"'Science has no country,' is the fact that makes us brothers with the entire world. For this reason, we are anxiously awaiting the final aspects of the peace planned at the San Francisco Conference, not only peace on the battle front, but peace on the front of public health. It depends on us, the allies of this true International Assembly, to cement the peace for which our brothers and sons have fought so vigorously. We must not betray them.

"Naturally, the charge weighs more heavily on those who teach and practice the medical sciences. Because they must serve a chaotic world, which suffers the glorious pains of maternity. Nothing can save the world but the birth of the strongest creature which bears in itself the brotherhood of man. We remember, moreover, that the years of infancy are days of crisis. A child needs affection and care as much as bodily nourishment and shelter. If this creature is to live and prosper, it must be cherished in the hearts of all men, and by cherishing it, all men will find themselves revitalized.

"It has been said that the human heart is like the miller's stone; when wheat is placed beneath, it turns and pulverizes and crushes the grain until flour is made. If no wheat is placed on it, the wheel continues grinding, but it crushes itself and is slowly eaten away. This is precisely what the

nations of the world have been doing with their eternal battles and their rejection of brotherhood—destroying the grain of the spirit They have forgotten to place wheat in the human heart, this forgetfulness has caused the heart of the world to be slowly eaten away

"Consequently, if we are to fulfill the doctrines of peace and brotherhood of man, our duty *not* only is to cause the creature to be born but to nourish it, guide it and teach it the ways of peace unity and human fraternity"

Versión del discurso (improvisacion) del Dr Manuel A Manzañilla, Vicepresidente del Colegio Internacional de Cirujanos, en la solemne inaugural de la V Asamblea Internacional Peru, 1946

Excelentisimo senor President de la Republ
ilustres Representantes gubernativos diplomáticos, universitarios y cientificos señores Presidentes del Colegio la Academia de Cirugia y la Asamblea distinguidos colegas, señoras y *señores*

En nombre de la delegacion mexicana tengo el honor de expresar, complacido, nuestra adhesion a la noble labor de esta Asamblea manifestacion brillante de inquietud cientifica internacional, esencialmente interamericana en el crucial momento que vivimos Permitasenos sumar nuestro empeñoso entusiasmo a la obra del Colegio, que hoy se exalta dentro del marco incomparable de la capital limeña bajo el alto patrocinio del Presidente Bustamante la diligente acción del Doctor Graña y el prócer ambiente de la peruanidad

No me es necesario evocar la firmeza indestructible de los viejos nexos que, dentro del proceso internacional y la afirmacion histórica del Nuevo Mundo unen a Mexico y al Perú Grande como América es su determinismo y es su conocimiento Rotundas similitudes geográficas, politicas, históricas, sociales y economicas identifican a los dos pueblos, cuya civilización autoctona maravilló de asombro al conquistador Semejanzas *sorprendentes acentuan* durante la Colonia la tradición de sus semblanzas y la magnificencia trascendente de su cultura, confundiendo el parecido en la personalidad de su destino Gemelos en el paralelismo de la vida independiente, muestran siempre el panorama soberano de un mismo paisaje fisico y animico Yo, muchas veces absorto en su contemplación, no he sabido con exactitud donde limita mi suave patria y donde comienza la patria hermana, hasta donde llega México y donde empieza el Perú

Permitidme adentrarme emocionado en el corazón de ustedes, ya que la hospitalidad se nos brinda carinosa y sin reservas Permitidme emocionado que los Reyes, esta Lima florecida de leyenda, tradición bajo el moruno embrujo de la insigne Ciudad de y *encanto*, renueve en la vieja fe de mis recuerdos el aceite de mi lámpara, para alumbrar insistente el largo camino de la remembranza, la grata recordacion de esta Asamblea, que perfumara perennemente el delicado aroma de la cultura y la hospitalidad peruanas

Translation of the discourse (extemporaneous) of Dr Manuel A Manzañilla, Vice president of the International College of Surgeons, at the solemn inaugural of the Fifth International Assembly in Lima, Peru, 1946

Your Excellency, the President of the Republic
illustrious Representatives of the Government, diplomatic, university and scientific delegates Presidents of the College the Academy of Surgery and the Assembly, distinguished colleagues ladies and gentlemen

In the name of the Mexican delegation I have the honor to express with pleasure our support of the noble work of this Assembly, a brilliant, essential inter American manifestation of international restlessness in the critical times in which Permit me to express my boundless the work of the College, which today the incomparable surroundings of the *under the lofty patronage of Presi* the diligent activity of Dr Graña splendid cooperation of the Peruvian

ary *for me* to evoke the inde of the old ties which, within the and historical affirmation of the *unite Mexico and Peru* Great as its determination and understanding graphical, political, historical, social and similarities identify the two peoples, whose developed civilizations filled the Conquistador with astonishment Similar surprises accentuated during the colonial period the tradition of their similarities and the transcendent magnificence of their culture, confounding the resemblance in the nature of their destinies Twins in the parallelism *of their* independent lives, they also reveal a superb panorama of the same physical and spiritual landscape I absorbed many times in contemplating it have never known exactly where my sweet country ends and where my sister country begins, how far Mexico extends and where Peru begins

Permit me to penetrate emotionally into your hearts now that hospitality makes us affectionate *and open hearted* Permit me, moved as I am, under the spell of the dark magic of the "City of the Kings" this Lima steeped in legend, tradition and enchantment, to renew in the old faith of my memories the oil of my lamp, to light insistently the long road of remembrance, the pleasant recollection of this Assembly, which will perennially perfume Peruvian culture and hospitality with its aroma

After this address the Presidents of the following delegations, in alphabetical order, presented the greetings of their respective governments for Argentina, Dr Carranza, for Colombia, Dr Cavelier, for Canada, Dr Willinsky, for Costa Rica, Dr Alvarez, for Chile, Dr Covarrubias, for Ecuador, Dr Gilbert, for the Dominican Republic, Dr Busallen, for the U S A, Dr Acuff, for France, Dr Seneque, for Mexico, Dr Manzañilla, and for Uruguay, Dr Rivere

Then the Minister of Public Health and Social Aid, Dr Julio Ernesto Portugal, in the name of the Peruvian Government, declared inaugurated the Fifth International Assembly of Surgeons, the National Sym

Professor Graña addressing the visiting members of the International College of Surgeons at the banquet tendered them in Lima, Peru, by the Peruvian Surgical Society.

phonic Orchestra played the National anthem as the Assembly arose to its feet.

Banquet in Honor of the Foreign Delegations

At 10 P.M. in "La Cabana" was served the banquet which the medical institutions and the Medical Body of Lima and Callae offered in honor of the foreign delegations present at the Fifth International Assembly of the International College of Surgeons.

Occupying the speaker's table were the Minister of Public Safety and Social Aid, Dr. Julio Ernesto Portugal; President of the International College of Surgeons, Dr. A A Berg; President-Elect of the College, Dr Francisco Graña; and the Presidents of the Medical Institutions. At the various other tables were seated the members of the foreign delegations and more than 300 surgeons of this Capital and its environs.

Dr. Graña, in short sentences, asked those present for a vote of applause for Dr Portugal for the aid lent in bringing about the Assembly, and as an expression of appreciation from all the surgeons Dr. Graña's words were followed by prolonged applause

Dr. Portugal, with fitting words, expressed his thanks for the tribute from the medical body, stating that he accepted it only as a stimulus to continue the performance of his elevated duties.

In the name of the National Academy of Medicine, Dr. Carlos Enrique Paz Soldán expressed appreciation, and after referring to the evolutionary history of surgery in Peru, spoke in cordial phrases to the visiting delegates, stressing also the success achieved by the meeting.

In the name of the Peruvian Academy of Surgery, Dr Fortunato Quesada emphasized the lofty meaning of the Assembly met in this Capital, and expressed his thanks for the manner in which the foreign delegates had lent their experience and knowledge.

Dr Enrique Felipe Plaza spoke for the Academy of Stomatology. After referring to the course followed by Odontology in Peru, he toasted the organizer of the meeting, Dr. Graña and the visiting delegates.

Finally, Dr Romulo Tijero, Secretary-General of the Peruvian Medical Association "Daniel A Carrion," gave an address in the name of this medical institution, stressing the work achieved by the International College of Surgeons and likewise the success of the Assembly held in the Peruvian capital.

The Closing Session

At 6 30 on the afternoon of March 27th in the Auditorium of Hospital Obrero of the National Bureau of Social Security, the closing session of the Fifth International College of Surgeons took place

The following presided over this session the President of the Cabinet and Minister of Public Safety and Social Aid, Dr Julio Ernesto Portugal, also attending were the President of the Assembly, Dr Francisco Graña, and the delegates from the various countries

Initiating the program, Dr Portugal Minister of Public Health and Social Aid read the following address

"Mr President of the Fifth Assembly of the International College of Surgeons, and

"Gentlemen

"Several days ago, in a solemn ceremony which took place in the presence of the Chief of State was inaugurated the Fifth Assembly of the International College of Surgeons and First Peruvian Surgical Congress The word of each one of the delegates expressed then the same ideal identical proposals, a common purpose human solidarity based on a firmer and more effective comprehension among peoples, and the feelings of security and faith of all the delegates in achieving a better human way of life, built on principles of equality justice and liberty

"The International College of Surgeons fulfilled thus, in its first solemn stage, the elevated principles which determined its founding in 1935 in the symbolic city of Geneva The doctors who established it felt the imperious necessity of a real international link, understanding that science is one with humanity and that it is raised very far above the prejudices and littlenesses of men to defend and protect health, which is the fountain of happiness and well being

"Never, as at present has greater importance been given to the protection of health in the Governmental programs of all countries Health may be considered, without exaggeration, as the basis for democracy It is the resultant of a bio physical equilibrium of an organico functional unit Peoples in whom health is whole, it is worth saying where each inhabitant has a well balanced physical being, satisfying in an orderly manner his vital instincts and checking his primitive instincts by the force of culture and morale, are peoples in whom democracy will take root most firmly and powerfully The economic social and cultural problem of most seriousness in all countries will be the successful transformation of good individual health into mass health

Surgery, art and science, today and always, will be powerful agents in the reestablishment of health weakened by the various ailments The considerable advances of therapeutics with the antibiotics are limiting [illegible] medicine, on the other hand, preventive and social medicine are attaining new heights, with this we are in accord But for many years yet, the seniority of Surgery will persist its radical therapeutics, at times spectacular, and always profoundly human, whose progress in technic is considerable and which has benefited much, even today, from the valuable acquisitions of physiopathology and from so many other branches of medicine

On the matter of perfecting means of defense of our [illegible] nationalists much ought to be said but this is not the occasion It is sufficient nevertheless as a tribute to the Assembly of the International College of Surgeons that the Portfolio which honors me with this position of trust is earnestly engaged in carry[illegible] advances of surgical technic to all [illegible] of the country, convinced of their [illegible] and the obligations of the State [illegible] stance It will not be an easy [illegible] governmental aim which we are [illegible] the perfecting of hospital aid, [illegible] bases advised by scientific technic, [illegible] Peruvian doctors and surgeons with [illegible] ments they need to carry on this beneficent [illegible] on their devotion, self abnegation and patriotism

Gentlemen The meeting of the Fifth Assembly of the International College of Surgeons, which this ceremony brings to a close, has been a distinction of honor for Peru, for which I thank you in the name of the Government

Eminent surgeons from all latitudes have visited us on a generous scientific pilgrimage to set before us the results of their admirable experiences and the example of their consecration to study and improvement

Permit me also to express the gratitude of the Government for the manner in which the President of the Organizing Committee has fulfilled his delicate mission achieving complete success and acting always with the consent of the State, which has interpreted in all its merit this effort in favor of progress and of the excellence of the Peruvian Surgical School

"Delegates I beg you to carry to your respective chiefs of State, Scientific and National institutions, the message of solidarity of the Peruvian Government and people, along with the wishes that it formulates for the ever increasing prosperity of the International College of Surgeons which must always be an example of human understanding and generosity "

Immediately after, Dr Albert A Berg, President of the College, expressed his appreciation for the unlimited aid which the supreme Government and particularly the Minister of Public Health and Social Aid, had lent to the work of the Fifth Assembly of the International College of Surgeons, having made possible the outstanding success achieved

(For list of foreign delegates, see p 637)

At the same session, Dr. Thorek, International Secretary-General of the College, proposed a vote of thanks to Dr. Guillermo Almenara, Superintendent of Hospital Obrero of Lima, stating that the perfect functioning of this modern hospital is due to its recognized staff He added that the same opinions caused him to express his respect for the Chief of the Surgical Department, Dr. Francisco Graña. After stressing his appreciation to his Peruvian colleagues, not only on behalf of the International College of Surgeons, but for reasons of scientific and human nature, he closed, inviting the members of the Committee to express this vote of honor.

The address of Señor Dr. Felipe de la Torre follows:

Señor Presidente de la República:

Es para mi insigne honor hacer uso de la palabra en esta Asamblea magnífica, que adquiere toda su prestancia y brillo con la calidad de las personas que le dan realce al honrarnos con su presencia. Resiente mi modestia dirigirme á vosotros, autoridades científicas de los paises de todos los continentes y de mi Patria, que os reunis en nuestra ciudad para celebrar la V Asamblea del Colegio Internacional de Cirujanos. Os saludo en nombre de la Academia peruana de Cirugía, porque en esta ocasión, con el regalo de vuestra presencia y el formidable bagage de conocimientos que aportais, serán tratados los problemas de la especialidad quirúrgica en nuestra Primera Conferencia Peruana de Cirujía.

No hay, ciertamente, entre los principios positivos que ligan á los hombres en la sociedad ninguno que, como la cooperación alcance márgenes tan lejanos en la esperanza humana hacia un mundo mejor. Ella afirma y solidifica los vínculos del azar, ó crea nuevos, ó abre el camino para que el esfuerzo colegiado ó múltiple se traduzca en el beneficio. Por eso la cooperación se universaliza Por eso la reclama la política, la técnica pura, la ciencia y la investigación. Por eso adquiere dia á dia su característica moral con profundas raices en la sociología, porque la cooperación ha de ser una regla para todos los hombres de todos los sectores del orden social: cooperar para dignificar la vida y sus funciones, para enrumbarla hacia el éxito, para defenderla de la destrucción y la ruina ó cooperar en fin, para animarla en los mas elevados propósitos ó en fines puros de la salvación eterna. Todo ello demanda la unión de los esfuerzos para que sean eficaces las decisiones de la voluntad Cooperar cada vez mas estrechamente para hacer uno y fuerte los múltiples esfuerzos y procurar que sea uno, y celebrado y bueno, el destino de cada grupo humano en su propio orden nacional ó de cada grupo nacional en el vasto ámbito de la humanidad entera

El aislamiento de hombres y de naciones tiene ya fijada su sede en lejanas y obscuras etepas de la historia. Los hombres en el mundo moderno no pueden subsistir solos y piensan con máxima intensidad en aunar esfuerzos para lograr resultados de un volumen cada vez mayor y de una calidad mejor. No hay ya practicamente, actividad que escape á esta gravitación ineludible y en el orden de la cooperación científica hemos te nido nosotros, la superioridad innegable de haber registrado á traves de nuestros contactos internacionales, no oposición de intereses, sino de con tra posiciones lógicas, es que el esfuerzo científico tiene siempre consecuencias universales La verdadera, la sana vocació científica es totalmente ajena ó debe serlo, al falso oropel de la vanidad. Esta es la conducta que ha informado las reuniones internacionales de caracter científico. Un tanto alejados del ruido cuotidiano, los trabajos de los hombres de ciencia sirven muchas veces, solo para simple información de las Asambleas. Las conclusiones no viven solo en el mundo de las teorias. Los contactos de estos congresos, nuestros propios contactos internacionales, son sesiones de trabajo, de prácticas pacientemente preparadas para poner en juego las excelencias, no solo de la técnica sino tambien del genio creador que se aparta un tanto de la mecánica, para aplicar á la acción científica su propia concepción.

I he allí, señores, la acción ganada á los inconvenientes de las distancias que separan nuestros pueblos Esta es la acción de los congresos científicos, que nos unen material y transitoriamente, pero nos dejan en la práctica de la vida profesional un bagaje de riqueza incomparable, y quien sabe si algun elemento nuevo de caracter psicológico para nuestro capital de voluntad científica Esa magna labor de las corporaciones científicas es de primera clase, entre nosotros lo tiene que recono cer la ciencia médica, porque estamos lejos de pensar que el conocimiento científico en materia médica, haya alcanzado metas incontrovertibles. Declararlo equivaldría a inaceptable suficiencia. Sería dañoso é inconveniente para el propio desarrollo de nuestra ciencia. Equivaldría a la paralización de todos los esfuerzos Es conveniente, y esto es ya un lugar comun, declarar que la ciencia médica para su creciente superación, ha menester de esa perenne inquietud que constituye la base fundamental del éxito y del triunfo.

Señores Delegados.

Corresponde hoy al Perú el honor de daros el albergue necesario para que, como hombres de ciencia tengais un rincon del mundo donde posar el vuelo de vuestro pensamiento científico Es un honor señanaldo y una satisfacción de nuestra ciudadania prodigar calor y amistad para hacer vuestra presencia venturosa, para realizar una vez mas un llamado de nuestros sentimientos de fraternidad, para permitiros pensar con detenimiento y responsabilidad en todo cuanto atañe á la salud y á la vida que pende de nuestras manos Os dejaremos el silencio necesario No hemos de turbar vuestra tarea ni con el ditirambo que os hiera, ni con la presunción y la suficiencia que os haga embarazosa la visita. Estais en vuestra propia casa Hay en ella la paz y la fe necesaria para meditar con libertad. Los problemas de la hora tienen la gravedad de todas las cosas urgentes La vida moderna es dinámica y activa, pero está tambien, dolorosamente influenciada por ciertos acontecimientos. La guerra ha dejado una huella de desequilibrio en todos los espiritus Ha cerrado unas puertas á la violencia de los hombres, pero seguramente ha dejado otras entreabiertas para permitir que viva latente sobre

el genero humano el riesgo de su propia aniquilacion La ciencia, en medio de todo este espectaculo negativo se enriquece sin embargo, porque la ciencia representa la reaccion de la vida de una humanidad que no quiere desaparecer Por eso en medio de la negacion y la lucha la ciencia medica ha enriquecido enormenente sus fastos sirviendo entre el fragor para disimular los dolores o para rehacer y conservar el elemento precioso que es la vida humana

He aqui, porque nuestra solidaridad profesional es realmente un obsequio que hacemos a la sociedad general Es una esperanza mas para quienes sufren el dolor en sus proprias carnes Es un apoyo para quienes piensan en la necesidad de afirmar la seguridad de la salud y progreso de la especie humana I si de la paz se trata, nuestra ciencia debe enriquecerse todavia para conseguir que el hogar se afirme, la sociedad se tranquilice y se desenvuelva libre de nostalgias peligrosas o de la acechanza de la muerte Por eso nuestra reunion en esta solemne V Asambles del Colegio Internacional de Cirujanos, debo definir puntos de vista de otras latitudes y los nuestros en el comun empeno de la lucha contra el mal

Debo de expresar a los ilustres colegas que nos honran con su visita, en nombre de la Academia Peruana de Cirujia, su gratitud por la contribucion de su presencia para prestigio de la Primera Conferencia Peruana de Cirujia Ha querido la suerte que este certamen, de problemas y trabajos quirurgicos peruanos, alcance el volumen que le otorga la presencia de espiritu de todos vosotros por ello tambien, mi palabra de reconocimiento personal y poruqe con tan promisores auspicios, con tan esclarecido auxilio cientifico, la Primera Conferencia Peruana de Cirujía no puede menos que ser un exito completo

Senores

Unimos nuestra [illegible] universal del bien nos reuna en una [illegible] que una todas las voluntades, en esta hora tan solemne para la humanidad y en un momento tan emotivo como este, hagamos que por un esfuerzo comun con espiritu de superacion con fe inquebrantable en los grandes destinos de la humanidad elevando nuestros corazones por encima de las miserias humanas laboremos por el bienestar de todos los habitantes de la tierra

Dr Enrique St Loup, speaking for the Bolivian delegation, said

"El Colegio Internacional de Cirujanos como lo [illegible] gala Sobrado motivo hay para ello Al [illegible] terismo de Pasteur la Science n'a pas de p[illegible] ol plantado en Ginebra se expandio [illegible] flores y dio frutos Y de la semilla [illegible] nto fueron brotando plantas que [illegible] ur del mar a la montaña, [illegible] ol la América Tal ese retono, muy [illegible] prendio alla en las faldas del Illimani, [illegible] vigoroso ya que constituye el Capitulo [illegible] ol bajo cuyo follaje nos congregamos [illegible] la fiesta de la recolección Seran opimos los frutos [illegible] parte de la experiencia quirurgica de toda America ha de mostrarse Y como la belleza no podia estar ausente de fiesta asi magnifica he aqui para realzarla un jardin florido de bellisimas damas y alla arriba, simbolico emblema, un arco iris de paz formado con todas las banderas ”

Then the Minister of Public Health and Social Aid in the name of the Government declared the Fifth International College of Surgeons adjourned

PROCEEDINGS

HOUSE OF DELEGATES

INTERNATIONAL COLLEGE OF SURGEONS

First Session

TRANSACTIONS AND MINUTES OF THE HOUSE OF DELEGATES *of the* *INTERNATIONAL COLLEGE OF SURGEONS*

Held at the Hospital Obrero, at Lima, Peru. March 24, 1946

1. *Call to Order by President:*

In the absence of the President (Dr. Román), the Senior Vice-President, Prof. Dr. Francisco Graña, officiated in accordance with Article II, Sections 1 and 3 of the By-laws. Dr. Graña, called the opening meeting to order at 11.00 A.M.

2. *Roll Call:*

In addition to a quorum, a large representation from various countries, chapters and governmental representatives was present.

Greetings and communications were received from the following:

Mr. Hamilton Bailey, England
Dr. Valentin Gomez, Bolivia
General Jules Voncken, Belgium
Prof. Eurica da Silva Bastos, Brazil
Prof. Arnold Jirasek, Praha, Czechoslovakia
Prof. Jacob Bitschai, Alexandria, Egypt
Dr. Y. Seuderling, Helsinki, Finland
Dr. Petros Kokkalis, Athens, Greece
Mr. F. R. W. K. Allen, India and Eire
Brig. M. M. Cruickshank, India and England
Prof. Mario Dogliotti, Torino, Italy
Dr. Benvenuto R. Diño, Philippine Islands
Prof. Dr. Francisco Gentil and Antonio Vasconcellos Marques, Lisbon, Portugal
Dr. Dervis Manizade, Istanbul, Turkey
Dr Felix Cunha, California, U.S.A.
Dr Morris Fishbein, Illinois, U.S.A.
Dr Désiderio Román, Pennsylvania, U.S.A.
and many others.

Dr Désiderio Román of Philadelphia; retiring International President of the International College of Surgeons.

3 *Approval of Minutes*

The minutes of the House of Delegates of the Fourth International Assembly of the International College of Surgeons, held in New York City, U S A, June 14–16 1943 and the reading of the minutes of the meetings of the Board of Trustees and Executive Council of the International College of Surgeons held on

October 23, 1943	March 4, 194[illegible]
December 18, 1943	June 9 1945
February 19, 1944	July 25 1945
May 6, 1944	October 13 1945
August 5, 1944	November 18 194[illegible]
October 2, 1944	December 6 1945
December 9, 1944	February 3 1946

were unanimously approved

4 *Appointment of Committee on Nominations*

Dr Graña, as Chairman, announced the appointment of the following Nominating Committee by the President

Dr Manuel A Manzañilla Mexico Chairman

Dr Jorge Cavelier Colombia

Dr Custis Lee Hall, U S A

Dr Fortunato Quesada, Peru

Dr James K Shen, China

Dr Graña announced that in accordance with Article I, Section 4 of the By laws, this Committee would submit to the House of Delegates a list of names of one or more members for each of the offices to be filled Accordingly, therefore, this committee was requested by Dr Graña to meet following the Opening Session of the House of Delegates at the Library of the Hospital Obrero on Monday, March 25, 1946, at 11 00 A M to consider the various candidates and prepare the above mentioned list for presentation at the closing session of the House of Delegates on the morning of Wednesday, March 27, 1946, at 11 00 A M, in the Library of the Hospital Obrero

5 *Reports of Officers*

Reports of the President, Secretary and Treasurer were then read and unanimously approved

6 *Reports of Committees*

Reports of the *Publication Committee of the* JOURNAL, of the *Editor in Chief of the* JOURNAL; of the *Auditing and Appropriations Committee*, of the *Assembly Committee*, of the *European Activities Committee* and of the *Executive Council* were read discussed and unanimously approved

7 *Introduction of Resolutions*

A number of Fellows and Delegates were desirous of introducing resolutions for the purpose of amending the constitution and by laws of the College, including Drs Manzanilla, [illegible] Carranza, Hall Behrend, [illegible] [illegible], Pantoja Babington, [illegible] [illegible] Thorek and others Seventeen resolutions were introduced and have been acted upon The constitution and by laws have been amended approved and ordered printed, and a copy of the constitution and by laws released from the press, embodying these amendments, will be sent to each member of the College

8 *Submission of Invitations for the Next Biennial Meeting*

Chairman Dr Graña announced that invitations have been received from the following countries

Colombia *Chile*

It was moved by the Secretary, seconded by Dr Manzañilla, Mexico, that cordial thanks of the College be extended to the countries from which these gracious invitations have been received, but that decision be tabled until a future date Motion carried

9 *Miscellaneous Business*

A Honorary Fellowships to be conferred on outstanding individuals were approved

B *Necrology*

It was moved by the Secretary, seconded by Dr Felipe Carranza of Argentina, that the delegates rise and stand in silence for a few minutes in honor of the memory of our colleagues who have passed away since the last International Assembly, but who are still with us in our hearts

Dr Fred H Albee, Past President, U S A

Dr. Dario Fernandez Fierro, Mexico, Member, Board of Trustees.

Dr. Alberto Gutierrez, Argentina, Member, Board of Trustees.

Dr. Max Meyerhoff, Cairo, Egypt, Fellow.

Dr. Salvador Paredes, Honduras, President, Honduras Chapter.

The delegates rose and remained standing in silence with bowed heads, until the close of the session.

* * *

Space does not permit the reproduction of all the communications received from the representatives of various governments. A few follow:

Communication of Professor Dr. A. Ceballos, Vice-President of the College:

Buenos Aires, marzo 21 de 1946

Señor Presidente y Señores Congresistas:

Por especiales circunstancias del momento me hallo impedido del honor de participar en las reuniones del Congreso patrocinado por el International College of Surgeons pero en espíritu me encuentro entre Vds. y deseo expresarle por estas líneas mi franca adhesión y los votos por el éxito de nuestra querida institución. La ciencia y el arte quirúrgico nos unen indisolublemente a través de las fronteras y en estas horas, cuando la humanidad ha escapado victoriosamente del peligro de la esclavitud y vuelve a brillar la libertad con el triunfo de Estados Unidos de Norte América, las otras grandes naciones democráticas y nuestras hermanas continentales, la solidaridad de los hombres de ciencia es una garantía para la ansiada paz del futuro y la perduración de los grandes principios que inspiraron nuestra historia, constituyendo la esencial razón de ser de nuestros países unidos por la democracia y los fundamentales derechos humanos.

Los Congresos como el nuestro contribuyen poderosamente a la unión de las naciones y a la solidaridad de todos los pueblos del mundo, tanto de aquellos que han sufrido los horrores de la guerra para coronarse en la lucha suprema con los laureles de la victoria, como los que sin haber tomado parte en la contienda han vivido ansiosos y entristecidos por el dolor de sus hermanos.

Espero confiado el destino de América para contribuír a la creación de una humanidad mejor y evoco en estos momentos los nombres de Washington, San Martín y Bolivar para que sus mentes iluminen la inteligencia de los ilustres congresistas en su acción no solo de hombres de ciencia sino de ciudadanos del mundo que trabajan en la ciencia para consolidar la paz de las naciones.

Le ruego Señor Presidente aceptar mis votos por la eficacia del Congreso y por el adelanto de la cirugía que en las escuelas americanas actuales tiene tan alta expresión. Le ruego igualmente quiera expresar al pueblo peruano mi admiración y el deseo por el engrandecimiento de la segunda patria de San Martín.

Muy afectuosamente lo saluda su colega y

s. s.

Alejandro Ceballos

The Minister of Public Health and Public Welfare of the Republic of Argentina spoke as follows:

Señores:

Hacen algunos días, en ceremonia solemne, que realzó con su presencia el Jefe del Estado, se realizaba la inauguración de la Quinta Asamblea del Colegio Internacional de Cirujanos y Primer Congreso Peruano de Cirugía. La palabra de cada uno de los Delegados expresó entonces, un mismo ideal, idénticos propósitos, un fin común: la solidaridad humana basada en una más firme y efectiva comprensión entre los pueblos, y los sentimientos de seguridad y fé de todos los delegados de conseguir una mejor convivencia humana, sustentada en los principios de igualdad, justicia y libertad.

El Colegio Internacional de Cirujanos cumplió así, en esa primera etapa solemne, con los elevados principios que determinaron su fundación en 1935, en la simbólica ciudad de Ginebra. Los médicos que lo establecieron sintieron la necesidad imperiosa de una real vinculación internacional, comprendiendo que la ciencia es una en la humanidad, y que se levanta muy en alto sobre los prejuicios y las pequeñeces de los hombres, para defender y protejer la salud, que es fuente de felicidad y bienestar.

Nunca, como ahora, se ha dado mayor trascendencia a la protección de la salud, en los programas de Gobierno de todos los países. Es que la salud se puede considerar, sin hipérbole, como base para la democracia. Ella es la resultante de un equilibrado bio-psiquico de una integridad órgano-funcional, y de la satisfacción adecuada de las necesidades biológicas fundamentales. Los pueblos en donde la salud es integral, vale decir, en donde cada habitante ha equilibrado su fisiologismo, llenando ordenadamente sus instintos vitales y sofrenando sus instintos primitivos por la fuerza de la cultura y la moral, son pueblos donde la democracia encontrará con más firmes y poderosas raices. Problema económico, social, cultural de gravedad diversa, según los países, será el que se deberá vencer para conseguir transformar la buena salud individual, en salud de las colectividades.

La Cirugía, arte y ciencia, será hoy y siempre de una poderosa acción en el restablecimiento de la salud quebrantada por diversas dolencias. Los avances considerables de la terapéutica con los antibióticos van restringiendo el campo de la Medicina; por otro lado, cada vez adquiere mayor auge la medicina preventiva y la medicina social, y con ello estamos de acuerdo. Pero, todavía por muchos años continuará persistiendo el señorío de la Cirugía, de terapéutica radical, a veces espectacular, y siempre profundamente humana, cuyo progreso en técnicas es considerable, y que en mucho se ha de beneficiar, como hasta hoy, de las valiosas adquisiciones de la fisiopatología y de tantas otras ramas de la Medicina.

En el sentido de perfeccionar los medios de defensa de la salud de nuestros connacionales, mucho deberíadecir, pero no es esta la ocasión. Baste, sin embargo, como homenaje a la Asamblea del Colegio Internacional de Cirujanos, dejar constancia de que el Portafolio que me honro en desempeñar, esta vivamente empeñado en llevar los adelantos de la técnica quirúrgica a todos los habitantes del país, convencidos de su derecho a la salud y de la obligatoriedad estatal a su [illegible] será labor facil Pero es [illegible] que trataremos de cumpl[illegible] asistencia hospitalaria [illegible] bases que aconseja la [illegible] médicos y cirujanos peruanos [illegible] que requieren para efect[illegible] tanto con su devoción, con su [illegible] patriotismo

Señores

La reunion de la Quinta Asamblea [illegible] Internacional de Cirujanos a la que [illegible] en esta ceremonia, ha constituido una distinción de honor para el Peru, que en nombre del [illegible] agradezco

Cirujanos eminentes de todas las latitudes han llegado hasta nosotros, en generoso peregrinaje [illegible] ciencia, para exponernos el resultado de sus admirables experiencias y el ejemplo de su consagracion al estudio y a su perfeccionamiento, por ello [illegible] delegados, sois merecedores a nuestro mayor reconocimiento

Séame permitido tambien el expresar la complacencia del Gobierno por la forma como el Presidente del Comité Organizador ha cumplido con su delicada misión, alcanzado completo exito y disponiendo siempre del concurso del Estado, que ha interpretado en todo su merito este esfuerzo en favor del progreso y de la superacion de la Escuela Quirurgica Peruana

Señores Delegados

Os ruego seais portadores ante vuestros respectivos Jefes de Estado, Instituciones Cientificas y Nacionales del mensaje de solidaridad del Gobierno y Pueblo Peruano, junto con los votos que formulo por la prosperidad cada vez mayor del Colegio Internacional de Cirujanos, que ha de ser siempre ejemplo de comprensión y generosidad humanas

Dr Ernesto Escudero, a representative of the Argentine government, delivered the following address

Señores

La tenaz e incomprensible obstinacion de la naturaleza me ha impedido llegar a tiempo para asistir desde su comienzo a esta Asamblea formada por los mas destacados miembros del Colegio Internacional de Cirujanos

El deseo del Gobierno Argentino, así como el de vuestro digno y caballeresco Embajador en mi Patria, era el de con mi puntual asistencia unida a la del eminente cirujano y cancerologo Doctor Carranza estuviesen representadas en esa Conferencia las dos categorías en que se divide la clase estudiosa de todos los paises, esto es La de aquellos que por sus meritos han recibido la consagración definitiva y la de quienes, mas jóvenes, este es mi caso, pugnan por seguir el mismo camino aunque tal vez, por falta de circunstancias favorables o por carecer de autenticos valores, no lleguemos nunca a salir del anonimato

Ha sido una meditada determinación del Excmo Señor Ministro de Justicia e Instruccion Publica, quien no ha omitido esfuerzos para que a traves de valles y montañas llegara hasta el seno de esta Asamblea el eco rumoroso de la sincera simpatía que los Argentinos como parte integrante de ese todo indestructible que es America consagramos hoy [illegible] Lima secular, [illegible] se mantuvo [illegible] ras e hidalgas

[illegible] molestias que he [illegible] nto ellas me han [illegible] bueno y original [illegible] titulos de los trabajos [illegible] anteriores hace logico [illegible] reconocer que esta [illegible] estimable el honor [illegible] vosotros

[illegible] estas breves palabras sin [illegible] solidaridad y afecto que [illegible] profesor A Ceballos, me [illegible] antes de mi partida La [illegible] del mismo la encontrareis en la [illegible] portador y que hoy se ha leído en la [illegible] delegados Pero la parte íntima [illegible] su expresion en la honda pena que [illegible] el no poder cruzar el continente con [illegible] otras veces, en pos de sus ideales de superacion cientifica y de acrecentamiento espiritual [illegible] con todos sus hermanos del inmenso país sin [illegible] que sustenta la intelectualidad noble y desinteresada

Nosotros, mas afortunados que el, hemos podido llegar a esta tierra generosa donde echó raíces el renunciamiento de Jose de San Martin Es aquí pues donde se erigió el altar ante el cual hemos de rendir culto a los principios de la cristiana humanidad y diáfana justicia sin los cuales no es posible lograr la convivencia armonica y feliz de las naciones

Finalmente, como delegado Argentino debo proclamar una vez mas los derechos inalienables de la clase médica, para que dignamente ubicada en el clima de libertad y comprension que ella necesita y merece, pueda llevar adelante su lucha contra la enfermedad y el dolor Solo asi sera posible reeditar con frecuencia actos de tan vastas proyecciones como esta quinta Asamblea del Colegio Internacional de Cirujanos, pues todos y cada uno de nosotros sabemos sin ningun género de duda, que es por este único camino que han de encontrarse algun dia los pueblos en su marcha angustiosa y claudicante hacia una comunión de ideales, que permita a nuestros hijos disfrutar plenamente de un futuro mejor

Lima, Marzo 27 de 1946

ERNESTO ESCUDERO
Paraguay 1545
Bs Aires, Argentina

The General Secretary's report follows

SECRETARY'S REPORT

TO THE HOUSE OF DELEGATES OF THE INTERNATIONAL COLLEGE OF SURGEONS

FIFTH INTERNATIONAL ASSEMBLY AT LIMA, PERU

March 24, 1946

Gentlemen:

It gives me great pleasure to greet you at the Fifth International Assembly of the International College of Surgeons, and to report to you on the activities of the various phases of my work as International Secretary General during the period since our last International Assembly in New York City in June 1943

When I last reported to you, the entire world was engulfed in war. Now we meet in the sunlight of peace, in the age old capital of the Incas, and as we look up to the majestic slopes of the Andes we feel strongly within us hope for the reconstruction of the world into a friendly community of civilized nations wherein all may live in amity. The International College of Surgeons has great plans for the future, and a splendid foundation has been laid during the past years despite the unavoidable obstacles placed in our path by the war.

A survey of our status at the present time shows that several Chapters have been formed since my last Report to you in 1943; and that others are now in the process of formation; while many, through hardships imposed by war conditions, have not been as active as they deserved to be. However, when we consider that Chapters were formed in the midst of global war, it is indeed an achievement for the College, for we suffered many disappointing setbacks, such as loss of valuable mail, interruption of the mails and cable services, and other more serious hardships due to the war.

We now confidently expect that Chapters will shortly be formed in the countries where such have not as yet been established. Preliminary steps have already been taken in:

Canada
Egypt
Finland
England
Greece
India
Italy

At present, we also have representatives in the following countries, with whom your Secretary is constantly in touch:

Australia
Bahamas
Belgium
Chile
Curacao
Denmark
Guatemala
Morocco
Netherlands East Indies
Philippines
Portugal
Rhodesia
U.S.S.R.
Sweden
Switzerland
Syria
Trinidad
Uruguay

As I have indicated, the war delayed our activities, as it naturally did those of all international organizations; but we have just reason to be proud, not only of our splendid progress, but of the fact that we have weathered the dreadful storm of war with our banner still flying aloft.

At this point I wish to pay tribute, and to extend the thanks of the College, to all the forward looking surgeons who are working together so zealously and unselfishly to further the aims and ideals of the College, to carry on our splendid work in those countries in which we have Chapters, and to establish Chapters elsewhere.

In Europe, I wish particularly to mention Mr. Hamilton Bailey and Dr. Rudolf Nissen for their far reaching efforts and whole hearted devotion.

In Latin America, our admiration and gratitude are due Professor Dr. Francisco Graña, our Assembly Chairman, for this magnificent Assembly, and Professor Dr. Manuel Manzañilla for the brilliant work he has performed for the College.

The United States Chapter has grown tremendously, and a great work is being accomplished under the leadership of Dr. Herbert Acuff and his excellent lieutenants.

If I could, I would mention all of the loyal and devoted men who form our International Board of Trustees, but time permits me to bring to your attention only the clear-sighted and devoted leadership of Dr. Désiderio Román, our outgoing President; and the integrity and straightforward vision of our incoming President, Dr. A. A. Berg.

There are surgeons all over the world who should be enumerated; but I can only say that all during the war years, as now, letters have poured into the Secretary's office from surgeons in all parts of the civilized world, breathing enthusiasm for the ideals and purposes of the College. During all these years, the Secretary's office has been in contact, personally and by cable and letter, with the various countries of the world; in some of which, even while bombs were dropping and the institutions of learning and civilization were being shattered, Chapters of the International College of Surgeons were being formed.

.Yes, our gains have been many, but our losses have been irreparable. We have lost our Past President of the International College of Surgeons, Dr. Fred H. Albee, and our International Vice President, Dr. Alberto Gutierrez. Both were valiant, greathearted men, devoted to the College, and "we shall not look upon their like again."

While, as previously stated, we have had many obstacles to overcome, some almost insurmountable, a wide survey shows that the early antagonism which greets every new organization has dwindled away to a shadow, and our organization is now recognized as the idealistic, teaching International College of Surgeons which it is. "The truth is great and shall prevail."

I would not be able to close my report without expressing my sincere thanks to *ALL* who have aided me with coöperation, counsel and constructive criticism in carrying out my duties and activities on behalf of the College.

And now, in conclusion, let me say that I know that the great work, so important for humanity, which we have to do in the postwar world will be performed by the International College of Surgeons. It is my profound belief that when I next address you, if God wills, during the Sixth International Assembly of the College, I shall be able to report even greater progress. I truly feel that we shall accomplish the goals and attain the aims we have set, and looking down the years I can see the College growing in size and usefulness, and doing all the work for which it was founded.

DECLARACION DEL SECRETARIO

A LA CAMARA DE LOS DELEGADOS AL COLEGIO INTERNACIONAL DE CIRUGIA

QUINTA ASAMBLEA INTERNACIONAL, LIMA, PERU
24 de Marzo, mil novecientos cuarenta y seis

Señores:

Tengo el placer de saludarlos en ésta la quinta Asamblea del Colegio Internacional de Cirujanos y de darles cuenta sobre los resultados de mis trabajos como Secretario Internacional desde nuestra última asamblea en Nueva York en Junio del mil novecientos cuarenta y tres.

Durante nuestra última relación, el mundo entero se *arrebataba* con la *guerra*. Ahora nos reunimos en la gloria de la paz, en el antigua capital de los Incas. Viendo las sublimes *escotaduras* de los Andes, sentimos alzar el alma con la vista de la rehabilitación del mundo, formandose un conjunto propicio de naciones civilizados donde todos vivaran en recíproca cordialidad. El colegio internacional de

Cirujanos tiene tremendos planes para el futuro, y apezar de los impedimentos puestos en nuestro camino los últimos años hemos hecho brillantes principios el año pasado

Examinando nuestra posicion al momento, vemos que diversos capitulos se han formado despues del mil novecientos cuarenta y tres, otros se forman en estos momentos, sin embargo ciertas de nuestras sociedades afiliadas *no* han podido ser tan activas como querian, a *causa* de la *guerra* Con todo considerando que hemos fundado nuevos capitulos durante una *guerra* global esta adquisicion es a la gloria del Colegio Naturalmente hemos sufrido muchos embarazos como la perdida de correos, interrupcion de comunicaciones telegraficas y otras molestias directamente resultado de la *guerra*

Ahora podemos ciertamente esperar que pronto se formaran capitulos del Colegio en muchos paises donde, hasta ahora, no se encontraban establecidos Tambien, nuestros representantes estan en constante comunicación con el secretario del Colegio sobre las capitulos planeados para todo los paises incluidos en el mundo civilizado

Como he indicado anteriormente, la guerra ha retrazado nuestras actividades tal como se [illegible] con otras organizaciones, pero tenemos *razon* de estar orgullosos, no solamente de nuestro magnifico progreso, sino porque sobrevivimos este formidable calamidad con insignias todavia levantadas

A este momento quiero dar tributo y dar tributo y dar las gracias del Colegio, a todos los cirujanos de vision que tratan de tener arreglos y *entendimientos* colectivos, llevando los objeto e ideales del Colegio a los paises en que tenemos capitulos y en las otras partes del mundo donde todavia no ha llegado nuestra influencia

En el continente *Europeo*, quiero mencionar con todo afecto al Señor Hamilton Bailey, en Inglaterra, y al Doctor Rudolph Nissen, por sus *esfuerzos*, notables por todo el mundo cientifico, y por sus devociones animada en el avance de la cirugia

En America Latina nuestra admiracion y gratitude son para Profesor Doctor Francisco Graña, director de la Asamblea, quien hizo todos los arreglos para recibirnos aqui Tambien quiero dar las gracias al Profesor Doctor Manuel Manzanilla por el trabajo *excepcional* que el ha hecho para el Colegio

En los Estados Unidos de Norte America, pudiera catalogar a todos los fieles emisores del Colegio Internacional de Cirujanos, pero el limite de este discurso solamente permite mencionar el sabio y fiel *caudillo*, Doctor Desiderio Roman, ex presidente del Colegio, tambien, no podemos, ni debemos olvidar, la integridad y directa vision de nuestro nuevo Presidente Doctor A A Berg Ademas, las ramificaciones en [illegible] mente bajo la [illegible] Acuff y sus [illegible]

Ind[illegible] que [illegible] en [illegible] decir [illegible] guerra [illegible] ado [illegible] partes del [illegible] para los [illegible] todos [illegible] en con[illegible] parta con los [illegible] aquellos tiempos [illegible] la educacion, [illegible] siempre sin *que* [illegible] tambien que seguir, [illegible] capitulos del Colegio [illegible]

[illegible] ganancias han sido plenas [illegible] han sido irreparables [illegible] el Doctor Fred H Al[illegible] del Colegio y tambien [illegible] Internacional, Doctor Alberto [illegible] el Doctor *Dario* Fernandez Fierro Todos, [illegible] hombres valientes, con corazon para todos, y [illegible] Colegio

Como hemos dicho antes, hemos tenido que *vencer* muchas difficultades la mayoria insalvable para uno sin espiritu, pero hemos encontrado que la oposicion a lo nuevo ya se va *desvaneciendo*, con el resultado que nuestra organizacion ahora esta reconocida como el Colegio Internacional de Cirujanos de *ensenanza* idealistica La verdad es grande y *prevalese*

No puedo terminar mi resumen sin expresar mis sinceras gracias a todos los que me ayudaron con su cooperacion, consejo, y critica constructiva en la *ejecucion* de mis deberes y actividades frente al Colegio

Para terminar, permitaseme decir que estoy seguro que nuestra gran obra, importante para el progreso de la humanidad, que nos ha caido hace en la post guerra, sera cumplida por el Colegio Internacional de Cirujanos de un modo altruistico Es mi sincera creencia que cuando me presente otra vez, si Dios quiere, durante la sexta asamblea internacional, pueda reportar progresos mas notables, mas mundiales y de mas importancia Creo con todo mi corazon que cumpliremos los fines y ganaremos los *designios* que nos hemos propuesto Contemplando los anos ante nosotros, veo en el horizonte un Colegio *creciendo* cada vez mas y siguiendo los beneficios que todos nosotros esperamos de el

Closing Session

TRANSACTIONS AND MINUTES OF THE HOUSE OF DELEGATES of the INTERNATIONAL COLLEGE OF SURGEONS

Held at the Hospital Obrero, at Lima, Peru. March 27, 1946

1. *Roll Call:*

Roll call showed that a quorum and large attendance was present upon which the presiding officer, Professor Graña, declared the meeting open.

2. *Consideration of Unfinished Business of the Preceding Session:*

A. *Vote on Resolutions to Amend Constitution and By-laws:*

Prof. Graña pointed out that, according to Article X, Section 1, of the Constitution, and Article IX, Section 1, of the By-laws, the Constitution and By-laws of the International College of Surgeons may be amended by a two-thirds vote of the delegates present and voting at the Assembly, provided that the amendments shall be presented on the first day of the meeting, which was done at the Opening Session on March 24, 1946, and a period of not less than twenty-four hours must elapse before such vote. Dr. Graña ordered the Resolutions to amend the Constitution and By-laws to be read in English and Spanish, whereupon they were read to the delegates in both languages.

It was moved by Dr. Manzañilla that since approximately 72 hours had passed since the first reading of the resolutions to amend the Constitution and By-laws, that all the amendments presented be ratified, approved and adopted as presented and incorporated in the Constitution and By-laws of the International College of Surgeons. This motion was seconded by Dr. Cavelier of Colombia and unanimously carried.

3. *Miscellaneous Business:*

A resolution introduced by Dr. Herbert Acuff regarding the work of the General Secretary since the inception of the College was unanimously carried.

4. *Report of Committee on Nominations:*

The report of the Nominating Committee (all members of this committee being present) was read by Dr. Manuel A. Manzañilla, Chairman. The list of officers, members of the Board of Trustees, and representatives were placed in nomination as follows:

Dr. Albert A. Berg, U.S.A., President.

Dr. Francisco Graña, Peru, President-Elect.

Dr. Desiderio Román, U.S.A., Immediate Past-President.

Dr. W. W. Babcock, U.S.A., Vice-President.

Dr. Manuel A. Manzañilla, Mexico, Vice-President.

Dr. Herman de Las Casas, Venezuela, Vice-President.

Dr. Custis Lee Hall, U.S.A., Vice-President.

Mr. Hamilton Bailey, England, Vice-President.

Dr. Pablo L. Mirizzi, Argentina, Vice-President.

Dr. Jorge F. Cavelier, Colombia, Vice-President.

Dr. Herbert Acuff, U.S.A., Treasurer.

Dr. Max Thorek, U.S.A., Secretary-General. (Perm.)

Trustees

Dr. Luis D. Alfaro, Panama.
Dr. Lyon H. Appleby, Canada.
Dr. Fahri Arel, Turkey.
Dr. Charles H. Arnold, U.S.A.
Dr. Harry E. Bacon, U.S.A.
Dr. Moses Behrend, U.S.A.
Dr. Jacob Bitschai, Egypt.
Dr. Alfredo Borjas, Venezuela.
Dr. Rafael Angel Grillo, Colombia.
Dr. Arnold Jirasek, Czechoslovakia.
Dr Roland M. Klemme, U.S.A.

Dr Petros Kokkalis, Greece
Dr V. V. Lebedenko, Russia
Dr J. Heng Liu, China
Dr Felix Mandl, Palestine
Dr John Royal Moore, U S A
Dr Martial Bourand, Haiti
Dr Oswaldo P. Campos, Brazil
Dr Felipe I. Carranza, Argentina
Dr Alejandro Ceballos, Argentina
Brig M M Cruickshank, India
Dr Mario Dogliotti, Italy
Dr Jorge Gouvea, Brazil
Dr Rudolf Nissen, U S A
Dr Cesare A Pantoja, Colombia
Dr Fortunato Quesado, Peru
Dr Enrique St Loup B., Bolivia
Dr Raul D de Sanson, Brazil
Dr Y Senderling, Finland
Dr James K Shen, China
Dr Antonio Torres Estrada, Mexico

Representatives

Dr Paul Martin, Switzerland
Dr Charles Juillard, Switzerland

5 *Election of Officers*

Dr Babington, U S A, moved that the Secretary be instructed to cast one vote signifying the unanimous election of all the officers, trustees and representatives, as presented by the Chairman of the Nominating Committee. This motion was seconded by Dr Gariepy, U S A, and unanimously carried.

The Secretary, Dr Max Thorek, cast one vote, confirming the election of the nominees, and the presiding officer, Dr Graña, declared the slate of officers, board of trustees and representatives duly elected.

Chairman Dr Graña thereupon appointed Dr Acuff, U S A, Dr Shen, China, and Dr Manzañilla, Mexico, to accompany Dr Albert A Berg, President Elect, to the Chair, for installation as President of the International College of Surgeons for the ensuing term.

6 *Installation of Officers for the Ensuing Term*

Address by the Outgoing President

Address by Dr Désiderio Román, outgoing President, was presented by Dr Graña as follows

Surgery of the Stomach and Duodenum at a Naval Hospital

G. A. STEVENS, M.D., F.A.C.S., F.I.C.S.
COMMANDER, (MC) USNR
H. P. SLOAN, M.D.
COMMANDER, (MC) USNR
AND
J. H. DANGLADE, M.D., F.A.C.P.
COMMANDER, (MC) USNR

DURING six months in which the average daily patient census ranged from 1,500 to 2,000 in this Navy hospital, there were 91 admission for lesions of the stomach or duodenum. All but two (89) were peptic ulcers. Seventy-one of these were duodenal ulcers and eighteen gastric ulcers. Twelve patients (13 per cent) came to surgery.

Ten patients were operated for duodenal ulcer. The indications for operation were, in the order of frequency, repeated massive hemorrhage (4), obstruction (3) and intractability (1). In none of the cases was there perforation of the duodenum. Two cases had persistent symptoms and roentgenographic findings of duodenal ulcer with high-lying, improperly made, gastroenterostomies. One patient at surgery was found to have a gastric ulcer, together with an obstructing duodenal ulcer. Two cases of marginal ulcer with persistent duodenal ulcers are included as duodenal ulcers. One patient (Case 3) had had a gastroileostomy performed elsewhere, inadvertently.

Two cases underwent operative procedures for reasons other than duodenal ulcer. In one, a duodenal diverticulum was resected, and in the other a perforated marginal ulcer was closed. These two cases seem of sufficient interest to warrant detailed description.

Case 1: A 33 year old fireman was admitted to the hospital May 25, 1945, with a diagnosis of duodenal ulcer for medical observation. He complained of epigastric pain after eating. A roentgenogram showed a small diverticulum of the duodenum (fig. 1). Because a diverticulum of this size is believed rarely to produce symptoms, medical treatment was instituted and the patient kept under close observation. The symptoms were not relieved. At the patient's request, surgical exploration was made July 11. The duodenum was opened longitudinally and a diverticulum about two centimeters deep was found adjacent to the accessory pancreatic duct. The diverticulum was inverted and excised. The incision in the duodenum was closed transversely. Pathologic examination revealed ulceration of the base of the diverticulum, with polymorphonuclear and round cell infiltration. Convalescence was uneventful. The symptoms referable to the diverticulum were relieved completely and have not recurred.

Case 2: A 25 year old aviation machinist mate was admitted to the hospital, June 27, 1945, with acute abdominal pain. Fourteen months earlier a gastroenterostomy had been done for duodenal ulcer in another naval hospital. At the time of admission, examination revealed a markedly undernourished individual with generalized abdominal tenderness on rebound and pressure. There was some rigidity. The symptoms were most severe in the left, upper quadrant of the abdomen and in the left flank. The white

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This article has been released for publication by the Division of Publications of the Bureau of Medicine and Surgery of the U. S. Navy. The opinions and views set forth in this article are those of the [illegible] reflecting the [illegible] Navy [illegible] blood cell count was 10,450, of which 72 per cent were polymorphonuclears A roentgenogram revealed air in the abdomen along the left flank The psoas shadow on the left side could not be seen The diagnosis was "perforated gastrojejunal ulcer."

The perforation was closed surgically A viable flap of omentum was secured over the suture line and the abdomen closed, with drainage Convalescence was uneventful

About one month later the patient developed cramping pain radiating from the epigastrium downward to the left of the umbilicus. Because of the possibility of a second gastrojejunal perforation, definitive surgery was made on August 31 A perforated gastrojejunal ulcer was found, walled off and adherent to the parietal peritoneum The gastroenterostomy was taken down and an anterior Polya-type gastric resection was made Somewhat over one-half of the stomach was removed At operation the patient was found to have undergone previously a combination of three ill-advised surgical procedures, namely, (1) anterior gastroenterostomy, (2) high gastroenterostomy and (3) gastroileostomy instead of gastrojejunostomy (fig 2). The postoperative course was uncomplicated and the patient was returned to duty.

DISCUSSION

The most common lesion of this group for which surgery was performed, was duodenal ulcer. The most frequent indication was hemorrhage. Patients were not operated upon during active bleeding episodes and surgery was elected only in cases of repeated, massive hemorrhage.

Obstruction ranked second as the causative factor requiring surgery. In one case (Case 11), the patient's stomach had become huge from dilation produced by almost complete obstruction, although he was only 19 years old.

The patient (Case 9) with duodenal and gastric ulcers, admitted symptoms dating back 16 years. Marked symptoms of obstruction developed about three months before admission. The gastric ulcer was on the lesser curvature of the stomach, near the pylorus, and was not suspected before surgery.

In only one case was resection performed because of intractability after the patient had received a thorough trial of medical treatment without improvement.

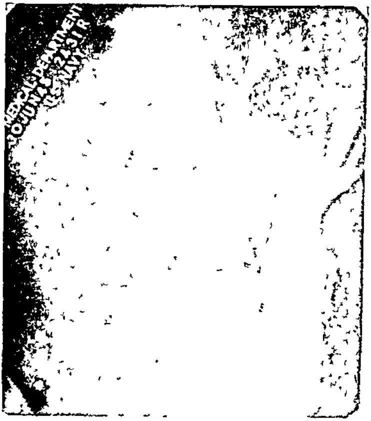


Fig 1 Duodenal Diverticulum *(Case 1)*

It is possible that in the surgical treatment of duodenal ulcer, the pendulum has swung too far toward gastric resection. Experience has shown that gastroenterostomy is an excellent procedure if done *only* when indicated. At present the authors perform gastroenterostomy only when the patient shows signs of obstruction, has low gastric acids and is over 45 years of age. Since none of the patients whose cases are reported in this paper met these criteria, gastric resections were done in all cases. The mortality was *nil* and none has been discharged from the service.

With one exception (Case 5), these

patients were ambulatory on the seventh or eighth postoperative day. Case 5 received a blood transfusion, because of anemia only, on the fifth postoperative day. While receiving the blood, he developed a severe chill and a temperature of 108.2° F. This was followed by hemolytic jaundice. He is up and the jaundice is subsiding one month after its onset. In six cases (Cases 5 through 10), stomach intubation was not required at any time following anterior Polya resections. In two cases, posterior Polya resections were made, following which continuous tube suction was required for two and three days, respectively, after operation.

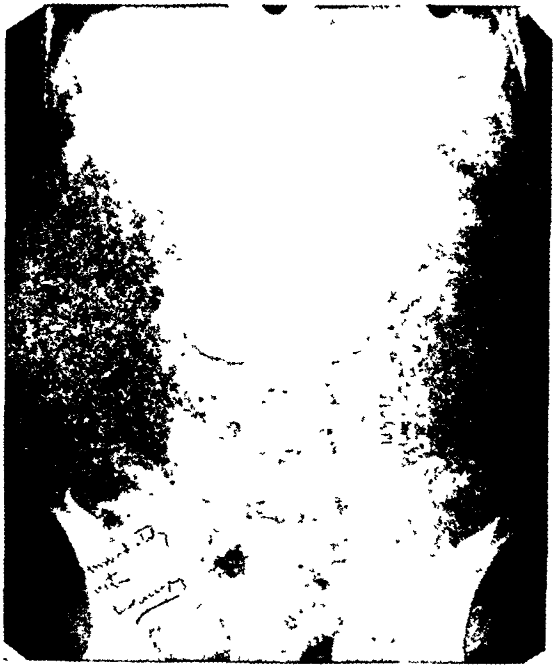


Fig. 2. High gastroileostomy with complete obstruction of the duodenum from old duodenal ulcer. *(Case 2.)*

In the two cases in which the gastroenterostomy was taken down and gastric resection was made, continuous suction was used as a routine measure for three days postoperatively. In one of these cases the posterior Polya procedure was employed.

The two patients on whom gastroenterostomies had been improperly performed elsewhere constitute, in themselves, a plea. Excepting emergencies, cases requiring gastric or duodenal surgery should be transferred to hospitals where there are surgeons properly qualified in this field. In both of these cases, the anastomosis was made so high that the stomach could not empty adequately (figs. 2 and 3). In one, the ileum instead of the jejunum was connected to the stomach (fig. 2).

The case of duodenal diverticulum is of interest because duodenal diverticula seldom cause symptoms. However, when they do, the essential symptom is usually pain after eating, probably owing to retention of food in the diverticulum. Nearly all true duodenal diverticula are located in the region of the openings of the bile and pancreatic ducts. The case reported was found by gross and histopathologic examination to be a diverticulitis and was adjacent to the accessory duct.

PRINCIPALS OF SURGICAL TREATMENT

Surgical treatment of cases of duodenal ulcer has been simplified as much as seems consistent with optimum results. The general routine established has not precluded deviations when indicated in individual cases.

Preoperative care. The patient who does not have an obstruction, is not anemic and has been receiving a reasonably well-balanced diet requires no special preoperative care.

In cases of obstruction, preparation for surgery includes gastric lavage twice daily until the amount of stomach contents aspirated each morning before eating is negligible. Feedings consist of a low-residue, high-carbohydrate, high-protein diet supplemented with ascorbic acid and thiamine. Five per cent glucose in normal saline solution is administered intravenously if the obstruction prevents the patient from taking sufficient nourishment by mouth. The stomach contents are thoroughly aspirated before surgery.

Patients whose losses of blood have produced anemia before surgery are given sufficient blood by transfusion to correct the anemia.

Operative technic. In contradistinction to surgery of the colon, in which preoperative preparation is probably the most important single factor, minimal mortality in gastric surgery is largely dependent upon properly executed surgical technic. One important factor is the treatment of the duodenal stump. In our experience, it has seemed unnecessary to resect the ulcer itself. We no longer attempt this. Neither do we leave any of the pyloric portion of the stomach. Routinely, we now divide the duodenum just distal to the pyloric vein. A running, fine chromic, intestinal suture is made over a small Payrs clamp. When the Payrs clamp is removed, the suture is secured. Frequently there is not available any seromuscular tissue on the posterior wall of the duodenum to suture, unless the duodenum is dissected from the head of the pancreas. In such instances the capsule of the pancreas is utilized in lieu of the posterior wall of the duodenum and is sutured to the seromuscular layer of the interior wall of the duodenum. The suture line is covered with a piece of omentum whenever possible. With this technic, a second-stage operation removing the pylorus is unnecessary. When a Devine type of procedure is used in such cases, reoperation to remove the pylorus is usually necessary.

Gastrojejunal anastomosis is made with two rows of running, fine chromic, intestinal sutures. The angles only are reinforced with interrupted sutures. A third suture line is unnecessary. The suture material used should be limited to the amount which affords adequate approximation with minimum strangulation of tissue. Leakage has not occurred in cases operated upon by one of the authors (Stevens) since the foregoing procedures have been used in treatment of the duodenal stump and the gastrojejunal anastomosis.

The technic obviously is time-saving. In cases in which only gastric resection was employed, the total operating time varied from 55 minutes (Case 10) to 120 minutes (Case 12), averaging 84 minutes.

Fig. 3. Result after gastroileostomy was taken down and gastric resection was made. (Same case as Fig. 2)

All cases are not suitable for the anterior type of anastomosis, nor is it necessary to make posterior anastomoses in all cases. The conditions in the individual case must determine the procedure to be followed. In the patient with a high-lying stomach, a short mesocolon and a relatively small greater

TABLE I

Case	Sex	Age	Diagnosis	Indication for Surgery	Operation	Operation Time	Free HCl Pre. Op.	Free HCl Post. Op.	Dilation Proximal Loop	Result
1	Male	33	Duodenal Diverticulum	Pain	Resection of Diverticulum	One Hour	...	...	...	Good
2	Male	25	Gastro-ileal Ulcer	Perforation	Closure Perforation	One Hour Five Min.	...	...	...	Good
3	Male	25	Duodenal Ulcer-High Gastro-ileostomy	Malfunction	Take Down G.E.-Ant. Polya Gastric Resection	Two Hours 30 Min.	45	0	No	Good
4	Female	34	Duodenal Ulcer-High Gastro-jejunostomy	Malfunction	Take Down G.E. Post. Polya Gastric Resection	Two Hours 25 Min.	38	0	No	Good
5	Male	29	Duodenal Ulcer	Hemorrhage	Ant. Polya Gastric Resection	One Hour	60	...	...	Trans. Jaundice
6	Male	52	Duodenal Ulcer	Hemorrhage	Ant. Polya Gastric Resection	One Hour 40 Min.	68	0	No	Good
7	Male	21	Duodenal Ulcer	Hemorrhage	Ant. Polya Gastric Resection	One Hour 25 Min.	53	0	No	Good
8	Male	29	Duodenal Ulcer	Hemorrhage	Ant. Polya Gastric Resection	One Hour 40 Min.	36	0	No	Good
9	Male	36	Duodenal Ulcer Gastric Ulcer	Obstruction	Ant. Polya Gastric Resection	One Hour Two Min.	14	6	No	Good
10	Female	27	Duodenal Ulcer	Obstruction	Ant. Polya Gastric Resection	55 Min.	32	8	No	Good
11	Male	19	Duodenal Ulcer	Obstruction	Post. Polya Gastric Resection	One Hour 30 Min.	32	12	No	Good
12	Male	29	Duodenal	Intractability	Post. Polya Gastric Resection	Two Hours	60	0	No	Good

omentum, the anterior Polya procedure is the authors' choice. Otherwise, and if the jejunal mesentery is so short that it causes undue tension on the jejunal loop, the posterior Polya procedure is selected. Following these criteria, seven anterior Polya and three posterior Polya resections were made.

Until a few years ago, the authors routinely made the so-called isoperistalic type of anastomosis in both the anterior and posterior Polya operations. During that time, postoperative dilation of the proximal jejunal loop was recognized in certain cases. Consequently, the method used at the Lahey Clinic has been adopted. This consists of a so-called antiperistalic type of anastomosis. The distal jejunal loop is placed at the lesser curvature of the stomach rather than at the greater curvature. Theoretically, this permits the flow of food along the lesser curvature of the stomach (Magenstrasse) to continue directly into the distal jejunal loop It would seem that the main flow of food would require "regurgitation" from the proximal loop were it placed at the lesser curvature It therefore seems plausible that this would produce dilatation of the proximal loop Since the "antiperistaltic" anastomosis has been used routinely by the authors, not one instance of proximal loop dilatation has occurred This fact has been confirmed by postoperative roentgenograms of every resection (fig 3)

Removal of more than one half the stomach has been discontinued While removal of less than one half the stomach may result in undue occurrence of stoma ulcers, our experience indicates that resection of one half of the stomach is adequate There was a complete absence of free hydrochloric acid in all but two of our cases two months after surgery In these two cases, reductions of free hydrochloric acid from a maximum of 32 degrees to maxima of 8 and 12 degrees, respectively, were obtained

Transfusions of 500 c c of citrated whole blood were given routinely during every gastric resection, to prevent shock With this measure, there has been little or no reaction incident to the surgical procedure The importance of this adjunct cannot be overemphasized

Spinal anethesia supplemented by sodium pentothal intravenously, was used with all of the cases

The importance of team work in surgery of this type should be mentioned The cases reported in this series were all operated upon by the same surgeon, the same first assistant and the same operating room crew The medical aspects of the treatment of these patients were supervised by one of the authors (Danglade)

Postoperative consideration Continuous, Wangensteen suction is not employed routinely except following combined procedures and in cases in which the stomach wall is thickened and edematous from obstruction The physicians and nurses helping to care for these patients postoperatively, are instructed to watch for three symptoms, any one of which indicates beginning dilatation of the stomach These are, hiccoughing, belching and an increase in the pulse rate disproportionate to temperature elevation If one or more of these symptoms is noted, the stomach is immediately lavaged and the stomach tube *removed Usually no further intubation* is necessary If the patient is not carefully watched, however, and gastric dilatation occurs to a degree that produces vomiting, continuous suction usually will be required for two or three days It is obvious that there is no substitute for close observation and detailed postoperative care If this cannot be accomplished it is probably better to use continuous suction as a routine This *we* have found to be entirely unnecessary

The patient is permitted one to two ounces of tap water by mouth every hour during the first and second postoperative days The fluid intake is supplemented by parenteral fluids as indicated On the third postoperative day, small, frequent feedings are started These are increased daily, both in quality and quantity The diet is augmented with ascorbic acid and thiamin

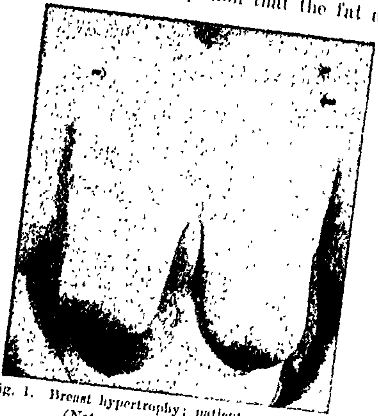
Routine measures to prevent vascular and pulmonary complications are employed These consist of deep breathing, bicycle exercises, frequent turning in bed and early ambulation

SUMMARY

1 Six months' experience in surgery of the stomach and duodenum at a naval hospital has been reviewed

(Continued on page 236)

The causes for enlargement of the breasts are, (1) accumulation of fat, (2) insufficiency of the suspensory apparatus and (3) less frequently, hypertrophy of the glandular structure. Usually it is the excessive accumulation of adipose tissue which plays the predominant rôle. At other times, though much less often, the glandular elements predominate. Some authorities are of the opinion that the fat accumulated in hypertrophied breasts differs in composition from ordinary adipose tissue. Hypertrophy sometimes occurs before menstruation sets in, but is more frequent after that period and may occur at any time. The endocrine glands play an important rôle in the causation of breast abnormalities (figs. 11–19 incl.).



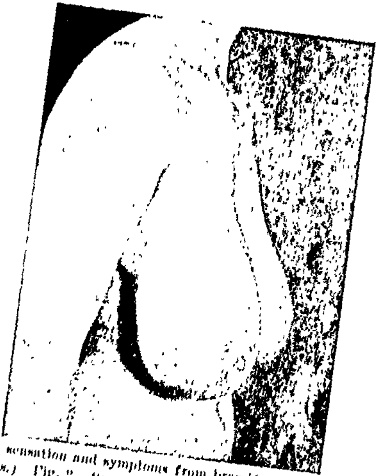


Fig. 1. Breast hypertrophy; patient complained of pulling sensation and symptoms from brassière pressure. (Note arrows indicating impressions from straps.) Fig. 2. Same patient; side view.

While in the last half century French surgeons occasionally alluded to plastic procedures on the breasts, it was Girard who, in 1910, called specific attention to this type of reconstructive work. He compared pendulous breasts with floating kidneys, pointing out that just as a prolapsed kidney calls for occasional suspension, so should pendulous breasts, when indicated, be suspended *(mastopexy)*.

The ideal results one aims to accomplish in plastic reconstruction of the breasts are:

1. The newly re formed breasts must be situated in their *normal position.*
2. They must be able to *function (endocrinologically).*
3. They must have the *form and size* of the normal breast and *no injury to the blood or lymph vessels* must result.
4. *Scars must be as inconspicuous as* possible.
5. Both breasts should be *symmetrical.*

Reconstructive operations on pendulous breasts may be divided into four principal groups:

uar breast tissue has occurred in certain of his operative patients. He states:

"I think that it is of utmost importance to note certain observations made upon one of my patients who became pregnant shortly after the operation. *During pregnancy, her physician observed colostrum coming from the transplanted nipple. After delivery, about 30 grams of milk came from the nipple each day.*" (italics mine).

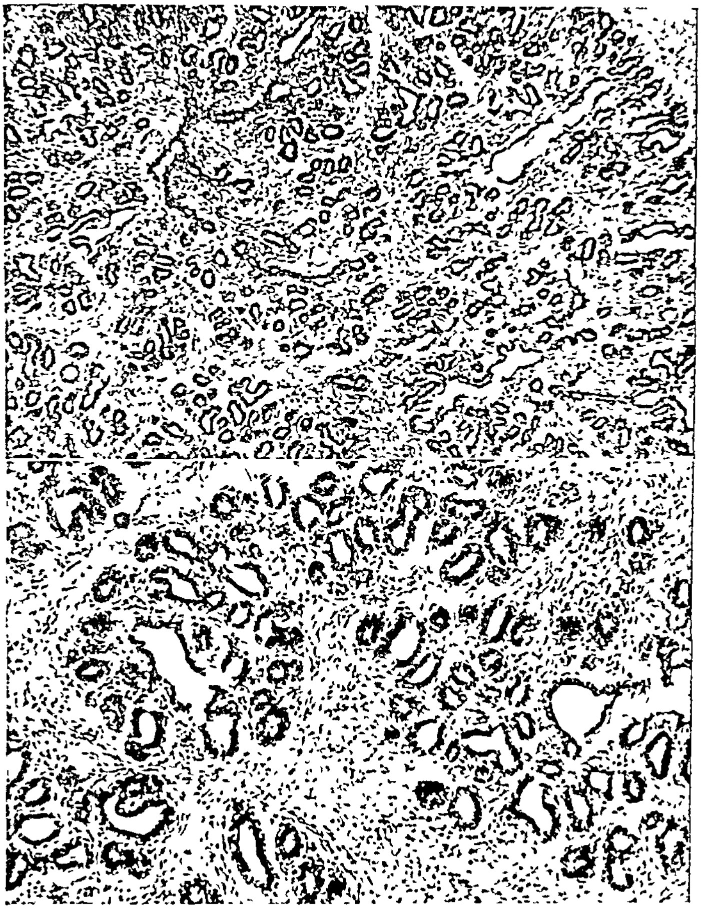


Fig. 15. Virginal hypertrophy of breast; marked lobular development of glandular structure and proliferation of interlobular connective tissue. Fig. 16. Same as preceding; lobules very distinct, proliferation of interlobular connective tissue marked and very cellular (X80).

"There was enlargement of the new breast which could be the more readily appreciated through pictures sent me by the husband. In the beginning, I thought this impossible, but after meditating upon the question and listening to the opinion of Prof. Carmo Lordy, a noted embryologist, I came to the conclusion that I was confronted with *true glandular regeneration. In the case in question, this regeneration was possible because of the transplantation of the nipple reëstablishing communication with the lactoferous canals.* (italics mine).

"Now since the cells lining the ducts are the same as those in the embryo, they have the power to form new glandular acini. Therefore, due to the excess of foliculin existing in the circulation of a pregnant woman, it seems possible that a similar phenomenon can be observed here to that which occurs in embryonic life

"Convinced of the possibility of regeneration of the mammary glands, I tried to obtain histologic proof of this fact. It was not possible for me to persuade this patient to submit to biopsy. However, in two other cases, I had the opportunity to find pregnancy and could observe that below the transplantation of the nipple, there was forming a small, hard node, not fatty in character but of the consistancy of glandular tissue.

"So, in view of the possibility of beginning regeneration of the mammary gland in all these cases, I did a biopsy on a patient previously operated on my service in 1940. The biopsy was done one year later. Biopsy material was removed from a cherry-sized nodule which had formed beneath the transplanted nipple. The tissue was removed to a depth of 1 cm., and was examined by Prof. Carlo Foá of the Experimental Pathologic Faculty of Medicine of São Pâulo; *the report was that there existed a true proliferation of new ducts, as seen in the appended microphotograph*" (italics mine) (fig. 65).

"At this time, glandular regeneration acquires great biologic importance, especially from the functional standpoint. There is also a notable advan-

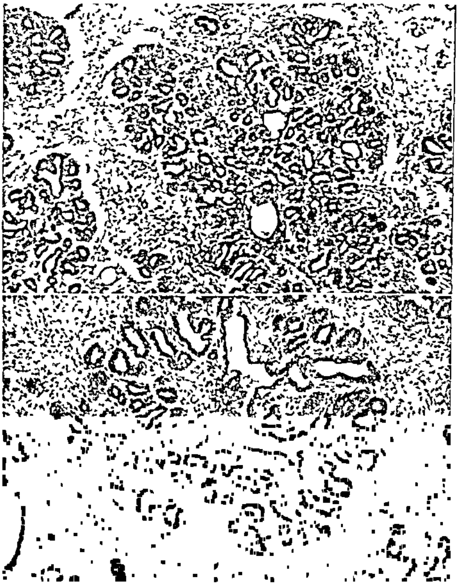


Fig. 17. Distinct lobular arrangement; some ducts markedly dilated (X60) Fig 18 Shows one lobule, consisting of distended duct, inter and intralobular connective tissues very cellular (X80).

reason, also, excision of breast tissue should be made from the inferior, not from the superior portion."

Eckhardt has described the *nerves* of the mammary gland. The *vagosympathetic nerves* excite the erection of the nipple, and may have a regulatory action upon the galactogenic hypophysary function. Severing the motor path does not affect the nipple reflexes.

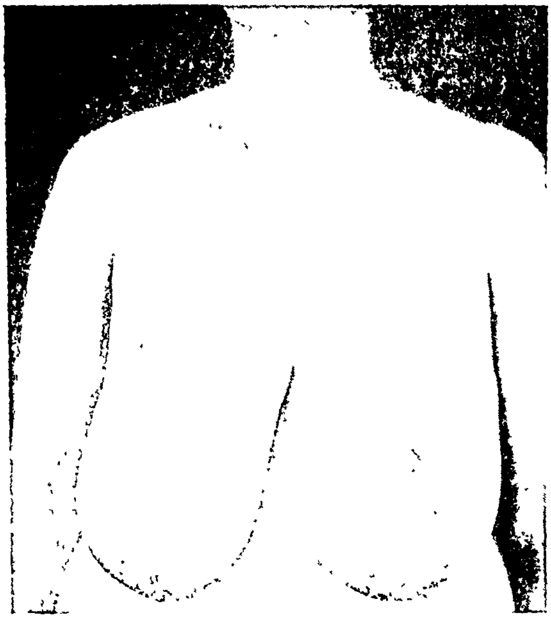


Fig. 28. Virginal hypertrophy of breasts.

As already stated, hypertrophied breasts in general have little functional value. Women with hypertrophied breasts often find after childbirth that they cannot nurse their infants. There is no loss then if, after plastic surgery, the breast fails to function as a lactophorous organ.

Reconstruction operations on the breast. The conscientious surgeon must not rest content with the study of the anatomy and physiology of the breast alone, but must also become familiar with the various types of operations. He must evaluate the results which may be obtained from each given procedure. One type of operation aims at suspension of the breast, after resection, using the costal cartilage of the second and third rib. Operations bearing the names of Lotsch,[2] Axhausen,[4] Kraske[3] and others, involve remodeling the breast and transposing the nipple. The third type of operation requires two and even three or four stages (Joseph,[6] Lexer-Hollander[5]), and involve (1) partial detachment of connections between the breast proper, the overlying skin, and the nipple, (2) excision of tissue to reconstruct the form of the breast, and (3) proper placing of flaps.

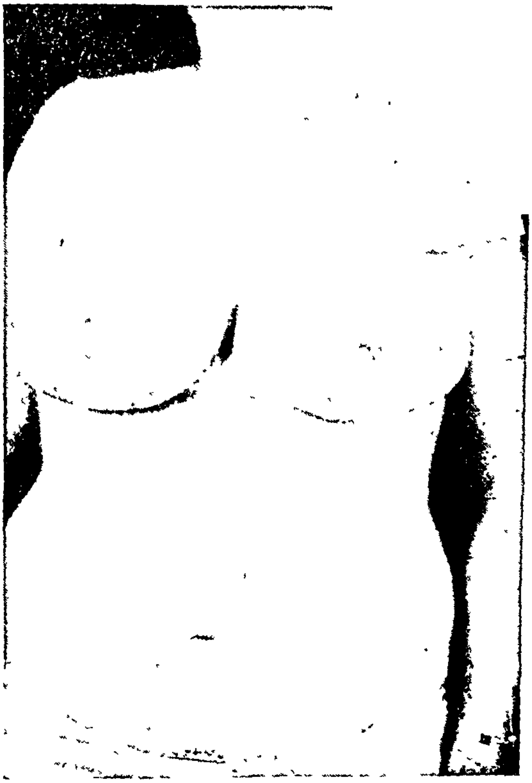


Fig. 29. Same patient as Fig. 28, following operation (author's technic); note excellent results in transplanted nipples.

Of these types, the Lotsch[2] operation may be used when the prolapse is not extensive, but in the greatly prolapsed and hypertrophied breast, multiple stage operations cannot be depended upon to secure satisfactory results. The possible complications and uncertain results of multiple stage operations have already been considered. Beside subjecting the patient to much unnecessary loss of time, these multiple operations are often followed by a variety of complications. Of these may be mentioned, besides unsatisfactory results, (a) postoperative shock; (b) hemorrhage; (c) fat necrosis; (d) infection; (e) sloughing of the necrotic breast tissues with loss of the nipple; (f) systemic manifestations as a result of septic invasion.[26, 29]

In my one-stage operation for reconstruction of the breast with transplantation of the nipple, there are still a few facts to be emphasized. The surgeon must be properly trained in general reconstructive surgery. He must use a fine degree of artistry in obtaining an entirely esthetic result, bilaterally equal and symmetrical (figs. 45–49 incl.). No operation should be planned unless definitely indicated and unless no contraindications, such as diseases of the heart, lungs or kidneys exist. The patient must be carefully studied prior to the operation. The line of incision must be determined with the patient in a semi-sitting position—*never* with the patient lying down. The position of the nipples is selected after the breasts are reshaped. Technical details follow:

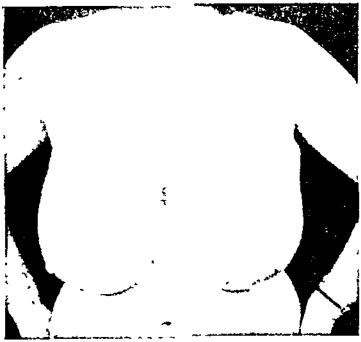


Fig. 30. Marked hypertrophy of breasts prior to operation.

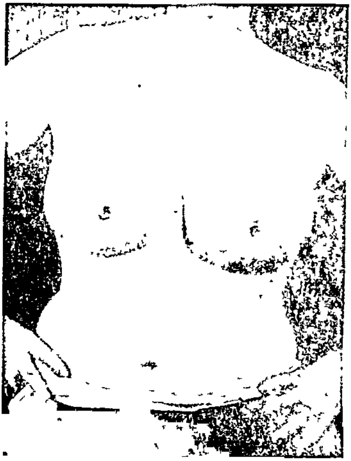


Fig. 31. Same patient as preceding, 3 weeks after author's operation.

OPERATION

1. *Anesthesia.* In days gone by, ether, ethylene, or cyclopropane were the anesthetics of choice. Local infiltration anesthesia is as undesirable as it is ineffective in undertakings of any magnitude in plastic resection operations. At present, I use intravenous anesthesia (sodium pentothal), with excellent results.

Both breasts are operated on at the same time, the average time of operation for both breasts being about two hours. It is needless to stress that the anesthetist must be well trained in administering this type of anesthesia.

2. *Position of the patient on the table.*

The recumbent position distorts the appearance of the breasts; a semi-sitting position is used exclusively in operations of this type. The markings as to where the incisions should be made and where to place the nipples should be taken care of a day or two prior to the operation. For effective marking of these outlines, the author has used brilliant green, mercurochrome, iodine, etc. These, however, are nonresistant to the materials used during the presurgical preparation of the patient, and often scrubbing obliterates them to such an extent that the surgeon finds difficulty in recognizing the outlines. The most enduring material for markings that I have found thus far is a concentrated solution of silver nitrate. This is used to outline the course of the incision, is permitted to dry and is then gone over with tincture of iodine. This, carried on proper sized cotton applicators, causes a tracing of silver iodide to appear, which resists the usual attempts at removal. It must be stressed, however, that in using the silver iodide method, the application of the silver solution must be done cautiously, lest unpleasant skin irritations result. In late years, I have abandoned extensive outlines, and now indicate the incisions on the surface of the breasts. With experience, one's improvement in technic augments. It must be kept in mind

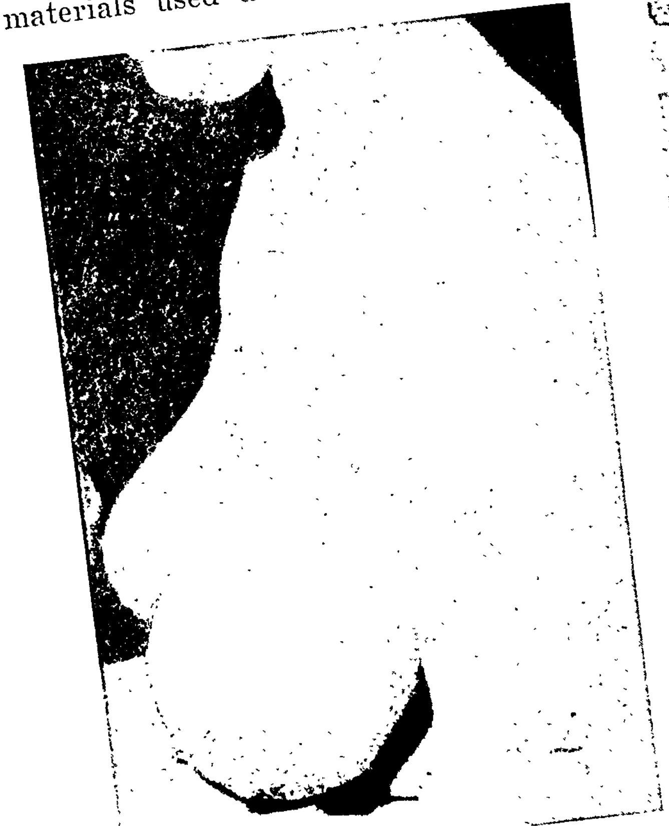


Fig. 32. Enormous hypertrophy of breasts causing much physical discomfort.

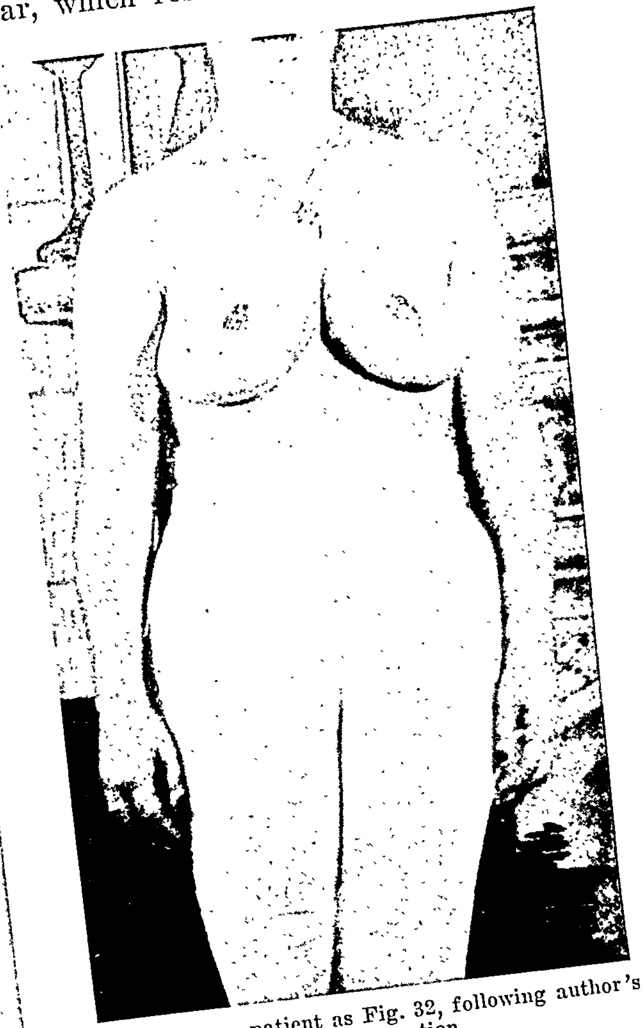


Fig. 33. Same patient as Fig. 32, following author's one-step operation.

that here, as in plastic surgery on any other part of the body, it is always wiser to outline a larger flap than a smaller one. The former can always be trimmed to the desired size, but the latter can cause embarrassing inconvenience or failure. Complicated measurements are confusing. I no longer outline the position of the nipple on the remodelled breast prior to operation, but after reconstruction of the breast, the area is studied and the nipple implanted in the most desirable position. In outlining the incision for the areola and nipple, it is well to circumcise the nipple and a part of the areola to the desired extent. Two semi-curved incisions are now extended in either direction from the central point of the areolar outline encircling the nipple, one incision extending toward the axilla, the other toward the sternopectoral fold. The second or lower incision outline is made at the mammary fold, underneath the hypertrophied breast. This should not be placed too high on the breast, nor too low on the thoracic wall. One should place the incision exactly in the *crease* where the breast is attached to the thoracic wall.

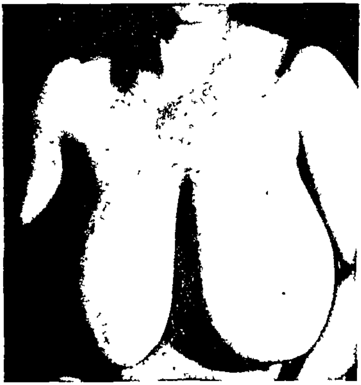


Fig. 34 Marked pendulous hypertrophy of breasts

3. *Detachment of the nipple.* A circular incision is made, encompassing the nipple and as much of the areola as desired, depending upon the individual case. This may be enhanced by placing a transparent medicine glass of appropriate size over the nipple, with the nipple in the center; the scalpel outlines the area. The surgeon of experience will outline such area without the aid of a guide. The entire nipple, including some muscular elements entering it, together with the subjacent structures is placed in warm sterile water, the con-

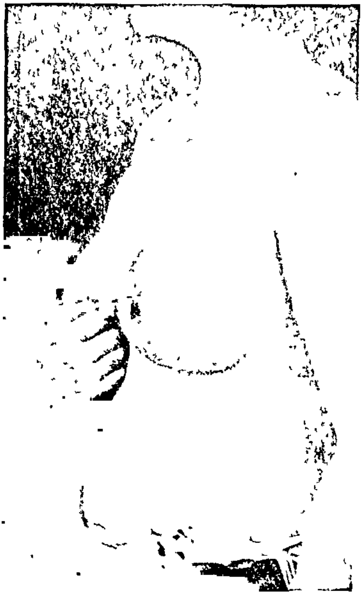


Fig. 35 Same patient as preceding 3½ weeks after author's operation

It is important so to place the flaps as to avoid too conspicuous scarring. At this stage, the innate artistic talent of the surgeon comes into its greatest play. Experience here is the best guide. In a properly performed plastic reconstruction of the breast, with the technic here outlined, the scars, after healing, should be not only inconspicuous, but in the main invisible, being hidden in the submammary fold.

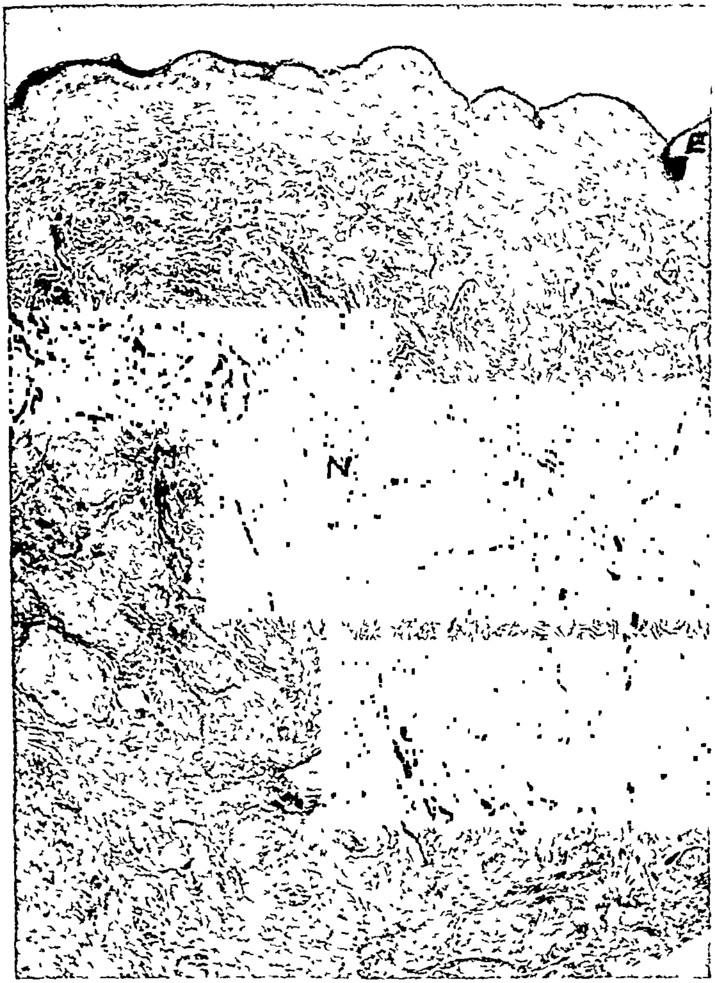
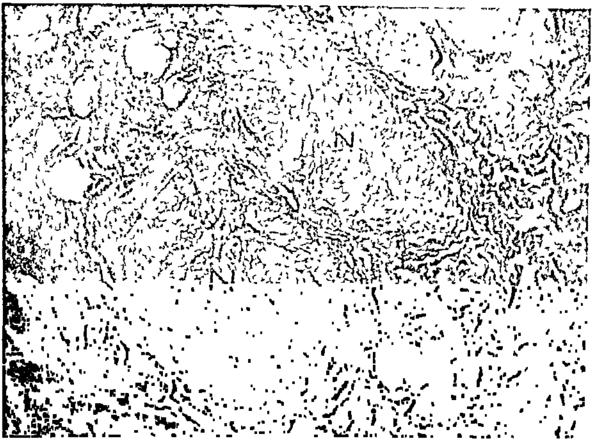


Fig. 41. Transplantation of nipple, 3 months after operation; VanGieson stain, low magnification; *E*, epithelium; *N*, nerve.

7. *Implantation of the nipple.* The surgeon now ascertains the best position on the reshaped breast on which to implant the detached nipple. With a sharp pointed scalpel he outlines or detaches a circular area of tegument corresponding to the size of the nipple; this must be somewhat smaller in circumference than the detached nipple. If made larger, it will put the newly implanted nipple on the stretch which may be followed by undesirable results. It is important that during the preparation of the new bed for the reception of the nipple only the deepest layer of the skin should be exposed. At no time should the subcutaneous tissues come into evidence. *This is important.* In a properly prepared bed for the nipple



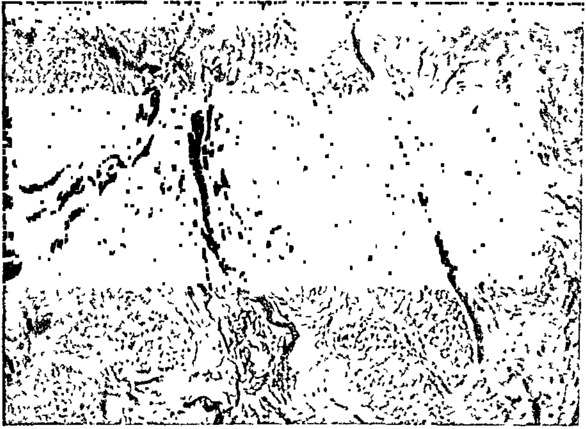


Fig. 42. Transplantation of nipple, 3 months after operation; VanGieson stain; magnification 150 x; *NN*, nerves. Fig. 43. Transplanation of nipple, 3 months after operation; Masson stain; magnification, 130 x; *M*, muscle fibers in longitudinal section.

there will be only moderate capillary oozing observed. This oozing is readily controlled by the application of hot compresses, or by monopolar fulguration of the bleeding points, or by grasping the small vessel with a very fine artery forceps, and closing the little stoma by torsion. When the nipple bed is thus prepared, the detached nipple is withdrawn from the warm sterile water, synonymously with craniocerebral injury. A simple linear fracture may involve no important structures and require no treatment. All head injuries, however, should be kept under close observation even though no active treatment is indicated. In the case of depressed or compound fractures, the gross pathology is more apparent. Even these cases may show few neurological signs if the fracture involves the silent areas of the brain. This holds for both simple fractures and depressed fractures in the silent areas. Fractures involving the ears and nose will sometimes decompress themselves. This was well illustrated in one of our cases. (See case 3.)

DIAGNOSIS AND TREATMENT OF CRANIOCEREBRAL TRAUMA

It has been the author's privilege to hear, on many occasions, the statement of Dr. John J. Moorhead of New York, "When the trauma is adequate, expect and suspect an adequate result." This is similar to a statement made by Mock, "Whenever a serious accident occurs and the resulting trauma seems trivial, treat that case as serious until proved otherwise."

The history of head injury is easily obtained in most cases. However, we occasionally find a case in which no history is obtained and in this a differential diagnosis must be made from diabetic coma, uremia, alcoholism and other medical conditions. All patients should first of all receive a complete physical examination. Bleeding from any of the orifices should be noted. Other signs of trauma should be looked for as it is a rare case that shows only head injury without other signs of trauma as well. It might be very embarrassing to treat a patient for concussion or a more severe type of head injury, and later to find that the patient has, say, a fractured hip which was not discovered at the time of admission to the hospital.

When the patient has recovered from shock, a complete neurological examination should be performed. Any pupillary changes should be noted and evidence of meningeal irritation should be determined. Drainage from the ears or nose should be recorded. Open wounds of the scalp should be palpated to determine the presence of a depressed fracture. A poor prognosis may usually be given if changes in the rate and character of respiration are noted. Cheyne-Stokes respiration and irregular or rapid respiration are important prognostic signs. A rising pulse, together with falling blood pressure, loss of sphincter control and increasing coma are all indications for a poor prognosis. The pupils may be pin point, dilated and fixed; the absence of corneal reflex is important. All of these findings should be checked repeatedly and any changes noted.

Spinal Puncture

Spinal puncture is done primarily for diagnosis. The appearance of the fluid, its pressure and the results of the Queckenstedt test should be noted. We do not believe in using spinal tap routinely unless it is indicated for diagnosis. Glazer, however, advocates routine spinal pressure studies and states that "A classification based upon the variations of intracranial pressure has proved more valuable for the treatment and proper interpretation of head injury patients than classifications based upon skull fracture or pathology."

Brieson states that spinal puncture should be performed for diagnosis in order to determine the appearance of the fluid, its pressure and the results of the Queckenstedt test. After this has been accomplished, he believes the procedure should be abandoned. If there is a suspicion that the spinal fluid is blocked, drainage should not be performed.

Roentgen Examination

X-rays should be taken on all cases in which there is a history of unconsciousness or in any case where the history and physical examination suggest a diagnosis of possible skull fracture. If the patient shows signs of shock or if there are signs of restlessness and the patient is uncoöperative, x-rays should be deferred. In most cases of severe head injury, the patient should not be subjected to x-ray examination until the general condition has improved and the patient is able to coöperate. In many instances, the x-ray examination may be deferred from four to five days or longer.

Treatment of Shock

In any patient with head injury, the treatment of shock is of primary importance. The patient should be kept at absolute rest and bleeding controlled. If the bleeding has been profuse, transfusions may be necessary. Glucose may be given intravenously but examination should have been previously made to rule out diabetes. It is important to keep the patient warm. No operative procedure should be carried out until the patient has recovered from shock. H. F. Cameron states that every head injury should be considered as an individual case and treated as such. Schnitker advocates the use of plasma or 10 per cent glucose in physiologic saline solution in cases of severe shock, compound depressed skull fracture or in any case in which extra-dural hematoma is suspected.

After the patient has recovered from shock, a complete neurological examination should be carried out. Primary suture of any wounds may then be performed. The patient should be given tetanus antitoxin and sulphonamides as indicated. Narcotics should be definitely avoided; barbiturates or chloral should be used for sedation. Adequate bed rest with close observation by the attending surgeon and the avoidance of any radical treatment, will give best results.

Treatment of the Open Wound

The patient's head should be shaved and the wound debrided as soon as possible following recovery from shock. Mechanical cleansing and the use of green soap, followed by plenty of sterile water, is most important. Any surgical procedure should be done with the strictest aseptic technic. Local anesthesia is advocated by some authors, but we have had no experience with it. Ether is definitely contraindicated in any case of craniocerebral trauma. Pentothal sodium anesthesia intravenously is very efficient; we believe this to be the anesthetic of choice in these cases. All foreign matter should be removed from the wound. This is best done by adequate irrigation with warm normal saline solution. Any clots should be aspirated and all traumatized edges should be freshened.

Whether or not sulfa drugs should be used locally is a much-disputed question; many neurosurgeons are opposed to such a procedure. Lieutenant Commander Donald F. Coburn states that practically all of the head injury cases that came under his observation had some sulphonamide preparation used in the wound and in none of these individuals was there any evidence to suggest that the presence of the drug was in any way harmful. Most authors agree that if sulfa drugs are to be used locally effect of the drug on the prothrombin time of the blood begins to manifest itself, and there should therefore be no undue risk of excessive bleeding during, or immediately after, the operation. On the other hand, the importance of achieving hypoprothrombinemia after the operation with as little delay as possible is obvious.

In this connection, mention may be made of the observations of Bollman and Preston (1942) on dogs and those of Butsch and Stewart (1942) on surgical cases. Their results suggest that hypoprothrombinemia established preoperatively by the administration, over a period, of therapeutic doses of dicoumarol, failed to give rise to excessive bleeding during subsequent operation or to interfere with the healing of the wound. It will be noted, however, that in our technic of prophylactic administration, as outlined above, no preoperative hypoprothrombinemia is actually allowed to develop, the operation being performed during the latent period of the drug.

Temparin was administered in this manner to most of our gynecological patients and to some others who, by experience, were judged liable to postoperative thrombosis. In most of the other cases, the risk of thrombosis only became apparent in the course of the operation, and here antiprothrombin treatment was started postoperatively on the day of the operation or on the following day.

Our experience with the "preoperative" series did in no case reveal any increased tendency to bleeding during or after the operation.

CONCLUSIONS

As shown in this paper, widely varying forms of thrombophlebitic conditions have been successfully treated by means of hypoprothrombinemia artificially induced by dicoumarol ("Temparin"). Under the influence of this drug, the thromboses are cured in a fraction of the time which is normally required in the absence of antiprothrombic therapy.

Antiprothrombic therapy has also proved effective in endarteritis and phlegmasia alba dolens and may even restore normal conditions in the early stages of gangrene. In cases of arteriosclerotic diabetic gangrene, pretreatment with dicoumarol resulted in improved peripheral circulation and, consequently, amputation below the knee could be performed in two cases, neither of which could have survived the shock which would have followed higher amputation.

The drug, when given in therapeutic doses, gave no untoward reactions whatever, except in one patient who had a history of liver disease. In only one case was hemorrhage encountered. Except for this instance, which was due to overdosage, there was no increased tendency to bleed, even from operative wounds, e.g., after appendectomy and amputations following extensive anticoagulant therapy, providing that frequent determinations of the prothrombin time were made during treatment and the dosage adjusted in each case in the light of the prothrombin values obtained.

The results with postoperative, i.e., prophylactic, use of dicoumarol, appear to us the most important. The risk of subsequent postoperative thrombosis and embolism can, it seems, be avoided almost with certainty. A method of prophylactic rountine administration, starting with a standard initial dose on the eve of the operation, has been found to be effective and safe.

The prophylactic use of the drug is clearly of particular importance with certain gynecological operations and major surgical procedures. According to our experience so far, herniotomy in elderly patients, for example, no longer presents the risk of embolism. But it is, above all, in the field of major surgical procedure that the unpredictable spectre of thrombosis and embolism now appears capable of being conquered at last.

The real advance thus made in the prophylaxis of thrombosis and embolism is perhaps best seen if we consider that, almost invariably, it is precisely the most daring, and therefore the most successful, operations that are threatened by the unpredictable occurrence of thrombo-embolism. It is, therefore, an advance along the path which will increasingly determine medical thought and technic in the future—the path of prophylactic therapy.

(Foreign summaries of this material will appear in the next issue.)

After the completion of this series of cases and during the preparation of this paper for publication, a paper by Brambel and Locker (1944) came to my notice, reporting similar experiences with 11 cases with post traumatic arteriosclerosis and gangrene due to frostbite and diabetes Dicoumarol prevented extension of established gangrene and was considered responsible for preventing the development of gangrene in the traumatic cases.

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(Acknowledgments are due to Herts Pharmaceuticals Limited for supplies of the drug)

THE SIGNIFICANCE OF THE LATENT PERIOD WHICH ELAPSES BETWEEN ONSET AND RADIOGRAPHIC APPEARANCES *

JAMES F. BRAILSFORD M D, PH D, F.R C P., F.I C S

In most diseases there is a latent radiographic period between onset and radiographic signs. The latter do not coincide with the development of clinical signs but lag behind

The interval between the appearance of clinical signs and the appearance of radiographic signs varies, not only in different diseases, but in different lesions and sites of these diseases. The clinical sign may have disappeared before the radiographic appear—the latter may persist to the end of the life of a healthy individual

Obviously radiographs during the latent radiographic period will reveal no evidence of the disease though it may be present—further radiographs must be taken at an interval depending on the condition, if we wish to obtain confirmatory radiographic evidence The interval between the first negative radiograph and the request for the second which shows positive signs is usually

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* Being a summary of an article appearing in the *Proceedings of the Royal Society of Medicine,* August 1945, Vol XXXVIII, No. 10, pp. 555–560.

(Continued on page 279)

RALPH CHARLES MATSON, M.D., F.A.C.P., F.A.C.S., F.I.C.S.

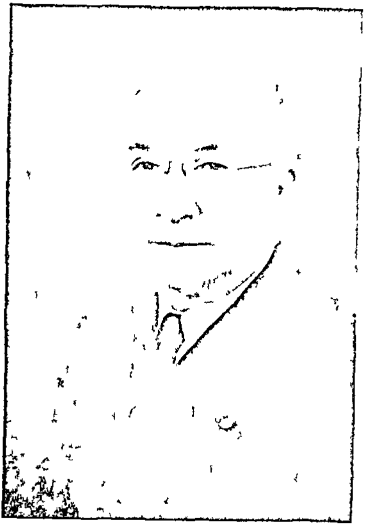
The medical profession in the western part of the United States in particular and the medical world in general suffered a serious loss, in the death, on October 26, 1945, of Dr. Ralph Matson, at the age of 68. Dr. Matson was known both here and abroad, for his outstanding work in thoracic surgery and the treatment of tuberculosis.

Though born in Pennsylvania, Dr. Matson was truly a product of the Pacific Northwest, having graduated from the University of Oregon Medical School (1902) and served his interneship at the Seattle General Hospital. Thereafter he studied abroad at London and Cambridge in England, at Vienna, at Dusseldorf and Berlin and in Paris. He was always primarily interested in diseases of the chest, and devoted much of the latter part of his life to the American College of Chest Physicians, of which he served two terms as president. He also held the unique distinction of being a Fellow both of the American College of Physicians and of the American College of Surgeons. At the time of his death he held the honor of being Senior Member of the American Association of Thoracic Surgery. He served during World War I in the Medical Corps of both Great Britain and the United States, successively.

He was one of the early members of the International College of Surgeons, having received his diploma of Fellowship on December 3, 1937. At one time he served as National Regent for Thoracic Surgery, and was also Vice-President of the United States Chapter of the International College.

His work as both teacher and writer was extensive, and he travelled widely both in search of additional knowledge for himself, and in the interests of the speciality he had elected. The benefits of both his travels and his teaching will live long in the profession.

FREDERICK WALTER MINTY, MD, FACS, FICS



Dr Frederick W Minty, of Rapid City, South Dakota, died suddenly, following a heart attack, at his home on Saturday, November 24 1945, at the age of 63 The son of an English Methodist Episcopal clergyman, Dr Minty and his family were well known in many fields of endeavor in the Black Hills area beside medicine In his younger days, he was active in sports and in music He was also interested in photography and in aviation, owning his own plane for a number of years

Dr Minty received his medical degree from Sioux City College of Medicine in 1904, and specialized in surgery during most of his professional life His son Dr Carl Minty, is in practice in Duluth Minnesota

JOHN HERBERT BLISS, MD, FACS, FICS

Dr J Herbert Bliss, of Brooklyn, New York, and Lakeville, Connecticut, died on October 1, 1945, at the age of 52

Born and educated in Clyde, New York, Dr Bliss received his medical degree from the College of Physicians and Surgeons of Columbia University in 1921, and a Master's degree from the Columbia Graduate School the next year He held a post graduate fellowship in Surgery at the Mayo Foundation for Medical Education and Research, Rochester, Minnesota, from 1923 to 1929, prior to which he had served his interneship at Methodist Hospital in Brooklyn, New York Following his service at Rochester, he became Chief Surgeon for the Methodist Hospital Surgical Dispensory, which position he held for the rest of his life He was also instructor in Surgery to the Nurses' Training School of the same institution

In addition to his affiliation with the American and International Colleges of Surgery, he also belonged among others, to the American Association of Railway Surgeons the Associated Physicians of Long Island, the Radiologist Society of North America and the New York Academy of Medicine

It is with these, no-longer wholly mysterious processes that *Rudolf Höber's*[4] new text, *Physical Chemistry of Cells and Tissues,* is concerned. In his introduction, Dr. Höber has this to say of his work: "This book has grown to its present state . . . during more than three years of war. . . . Its outlines may appear to comprise a well-defined entity. . . . Many a wound and many a defect have not abolished the integrity of the basic idea. The subject of the book . . . is 'physiology from below,' not originated to fill human needs . . . but as a branch of physical chemical science dealing with life as a physical, though exceedingly complex system. . . . During the last four decades . . . chemistry has more and more become a branch of physics."

This book is not for the casual student, nor for the busy general practitioner; rather its appeal is to the serious researcher who intends to go, whole-heartedly and deeply, into underlying causes, in the laboratory. It is all "solid meat" throughout its 676 pages of closely-spaced, small, black print. Questions, often startlingly thought-provoking, are asked, or subjects for discussion set up, in numbered, bold-faced side-heads; each of these is followed by a thorough discussion of the subject. The text is exhaustively annotated; bibliography is placed at the bottom of every page, making for quick, easy reference. Illustrations are mostly graphs and tables, bearing closely on the adjacent text, and schematic diagrams of physical and chemical relations.

Separate indices by author and subject are included, as well as an extremely detailed table of contents. A brief introduction entitled "Selected Principles of Physical Chemistry" by David I. Hitchcock, together with a list of related texts, precedes the first chapter.

The general practitioner has almost daily contact, in his consulting room, with women patients suffering from a multiplicity of "female troubles" which, though very bothersome to the victim, are oftentimes easily dealt with by simple, routine procedures. It is with this type of problem that *Margaret Moore White,*[5] in her *Symptomatic Diagnosis and Treatment of Gynaecological Disorders*, is primarily concerned.

Miss White's small handbook is well designed to fulfill its avowed purpose. Her wide experience in general practice and in clinics has given her a breadth of vision that enables her to put first things first and lay emphasis where it is most needed. In brief paragraphs, each with an identifying bold-face head, the author has covered practically every commonly-encountered problem in the gynecological field. These in turn, are, in one direction, subdivided by italic side-heads, and in the other, grouped in numbered sections, by various logical methods of classification.

One digression from the usual style of reference texts should be noted with approval. Descriptions of rare or less frequently encountered conditions, are printed in smaller type—an example of the aforementioned matter of emphasis. This is one of several improvements introduced in this, the second edition of the work.

The illustrations vary in type and style to match individual requirements and are adequate and clear. They included line drawings of various kinds, charts and graphs, and photographs and roentgenograms, all well reproduced and of fair size within the limitations of a small page.

Altogether this is a worth-while addition to the literature of gynecology and will probably find itself more frequently used by the busy doctor than many more pretentious volumes.

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[4] Physical Chemistry of Cells and Tissues. Rudolf Höber and others. The Blakiston Co., Philadelphia, 1945. Illustrated. Price $9.00.

[5] The Symptomatic Diagnosis and Treatment of Gynaecological Disorders. Margaret Moore White, M.D. (Lond.), F.R.C.S. (Eng.), M.R.C.O.G. Foreword by F. J. Browne, M.D. (Aberd.), D.Sc., F.R.C.S. (Edin.), F.R.C.O.G. 2nd Ed. 108 Illustrations. H. K. Lewis & Co., Ltd., London, 1946. Price 16s.

(Further details regarding this work may be gained by reference to the review of the first edition, which appeared in this *Journal* in March–April, 1945.)

Sección en Español

Nuevos Conceptos Sobre La Patogenia Del Adenoma Prostático

ARMANDO TRABUCCO, M D, F I C S
BUENOS AIRES ARGENTINA

EN el siglo pasado Mercier, Civiale, Velpeaud, Leroy D'Etoiles, consideraban al adenoma como una hipertrofia en masa de la glandula

Launois, creía que la arterioesclerosis era en realidad la iniciacion del adenoma Ciechanovsky y Rotchil fueron partidarios de la teoría inflamatoria, teorias todas que tuvieron su apogeo, pero que no resistieron a los más minimos embates, por lo que fueron abandonadas

En los comienzos de este siglo, Albarran, Hallee, Perearneau, Motz, expusieron una teoria patogénica, ya preconizada por Rochitansky en 1881, en la cual desarrollaban la hipótesis de que el adenoma tenía lugar en la glándulas llamadas periuretrales, colocadas por debajo de la mucosa uretral dentro del esfínter del cuello y que, con su desarrollo, producian el llamado adenoma

Estas teorías fueron defendidas por Tandler y Zuckerkandl, tan convencidos estaban los autores europeos, que Papin y Verhac aconsejaron llamar à esta afección, adenoma de la uretra posterior, en lugar de adenoma prostático, queriendo con esto separar categoricamente a la próstata de la producción adenomatosa que creían no pertenecer a ella Con el concepto de la teoría periuretral del adenoma de próstata hemos permanecido hasta ahora

Ultimamente Randall en un detenido examen del lóbulo mediano llama la atención de que no sólo las glándulas periuretrales se pueden hipertrofiar, sino que también los elementos glandulares preespermáticos pueden desarrollarse en forma adenomatosa

Reischauer y Deming y Wolff, por otra parte, afirman que no es el adenoma lo que primeramente se forma, sino numerosos pequeños tumores fibromusculares que toman asiento en la pared posterior de la uretra, comparandolos a los fibromas de utero y atribuyéndolos a similar origen Mulleriano Estos autores dicen que la presencia de tales tumores fibromusculares excitarían la proliferacion de las glandulas vecinas, especialmente periuretrales que serían englobadas por los mismos procesos fibrosos neoformados En Francia, Cuneo ha expuesto ante la Academia de Medicina de Paris una nueva teoría similar en cierto modo a la de Moskowicz sobre el adenoma, atribuyendo este proceso a la hiperplasia glandular de los elementos situados alrededor del utrículo y afirmando que todos los adenomas se desarrollaban en ese sitio

No entraremos a rebatir los argumentos de unos y otros autores ya que no es aquí el sitio apropiado Es indudable que todas estas hipótesis tienen algo de cierto y no se deben tomar individualmente como categóricas

La opinión de Albarrán y Motz es de indudable valor; existen en efecto adenomas desarrollados dentro de la musculatura, lóbulos medios de glán llamadas periuretrales, pero ta

just below the trochanter, and is thrust up through the neck and into the head. It should be placed sufficiently deep to engage the acetabulum and thus steady the head (fig. 1*d*). A cannulated drill is then sleeved over the wire (fig. 1*b*), and a tunnel, of such a size that the fibular graft will fit snugly, is made well into the head (fig. 1*d*).

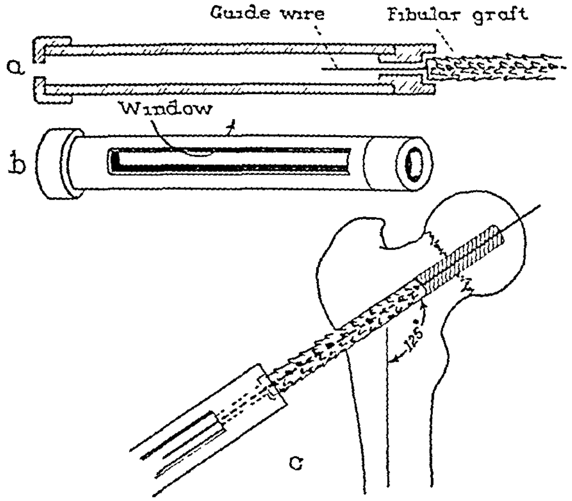

Fig. 2.—Impactor used for driving in fibular graft.

4. The bone for the graft is removed (preferably by a second operating team) usually from the fibula of the affected leg. All muscle and periosteum are scraped away and the cortex is thoroughly freshened with a chisel. This last is an important step, as it enables a blood supply to enter the graft more readily than otherwise.

5. The bone graft is inserted over the wire (fig. 1*d*) and is pounded in to the proper depth (fig. 2). The fragments are impacted firmly; then the guide wire is removed.

6. A double spica cast is applied, extending from the thorax to the toes on the affected side and from the thorax to the knee on the opposite side. It is worn for three months.

7. If the roentgenographic appearance is satisfactory, the patient is allowed to be about on crutches after three months, rarely before. Weight bearing is not permitted for six months, and preferably not until shadows of bone trabeculae can be seen crossing the line of fracture.

Technic of the closed method (extra-articular osteosynthesis [10]*).*—The essential preliminaries to this operation, as well as to articular osteosynthesis, are proper alinement of the fragments and obliteration of all shortening, so that the graft will not be subjected to strain or shearing force during the period of healing. Shortening can be overcome by traction, preferably applied in the preoperative period or, if arthrotomy is done, it can be combated by dividing the tight structures at operation. The technic of extra-articular osteosynthesis is briefly as follows:

1. A short, lateral incision exposes the shaft of the femur just below the trochanter (fig. 3*a*).

2. A Kirschner guide wire is inserted as nearly as possible in the normal line, that is, at an angle of 127 degrees with the shaft and with forward angulation of approximately 15 degrees. This is the ideal position but, if conditions at the site of fracture are such that this normal angulation cannot be secured, then the direction of the inserting Kirschner guide wire will have to be changed to fit the case. This procedure is done under roentgenographic control and the number of wires inserted is kept at a minimum. Some authorities advise the somewhat indiscriminate insertion of a large number of wires and then picking out the one in the best position. Such a procedure often leads to unnecessary trauma to the bone structures in the neck and head of the femur.

3. Over the wire is sleeved a cannulated twist drill of proper size and the tunnel for the graft is drilled (fig. 3*b*).

4. The graft is then inserted over the wire and is pounded in to the proper depth (fig. 3*c* and *d*). The bone graft must be prepared as described under articular osteosynthesis. The fragments are impacted and the guide wire is removed.

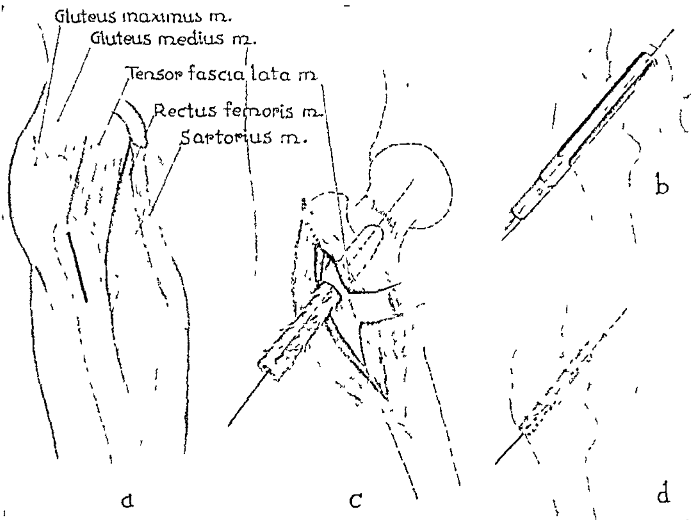

Fig. 3.—Anatomic relations of incision and bone graft. Note *a* the incision at the base of the trochanter, *b*. the fibular bone graft cleansed of all muscle, thoroughly roughened and partially inserted in the tunnel prepared for it, *c*. the cannulated drill inserted over a guide wire, and *d* the fibular bone graft in the proper position

5. A double spica cast is applied and the same postoperative care is given as in cases in which articular osteosynthesis is performed. Recently the period of fixation in the cast has been shortened by several weeks (figs. 4*A* and *B*).

MAYO CLINIC SERIES AND RELATED COMMENT

In the thirty-two years from July, 1913, to June, 1945, inclusive, a bone graft was used for treatment of ununited fracture of the neck of the femur in ninety cases (tables 1 and 2). In the designated period, actually only one in ten of the patients admitted for ununited fracture of the neck of the femur was subjected to the procedure under discussion. A fracture of the neck of the femur was assumed to be ununited if, *at the* end of three months following the accident, evidence of repair could not be demonstrated clinically or roentgenographically. *In this series, the longest* period during which nonunion had existed prior to operation was eighty-four months; the shortest period was
months; the average was 12.7
Forty-five of the patients
and forty-five, females. Th
patient was seventy-three
and the youngest, nineteen. T

merly was thought advisable, with no mortality and with good functional results.

RÉSUMÉ

La greffe osseuse dans le traitement des fractures non-unies du col du fémur fut dans les dernières trente-cinq années employée dans quatre-vingts-dix cas. Ce chiffre represente le dixième des cas admis pour cette condition un groups relativement petit et chosi avec soin. Le pourcentage des cas dans lesquels on a obtenu l'union est satisfaisant et les résultats fonctionnels furent heureux. Dans les dernières dix années, on adopté dans la majorité des cas la osteosynthèse extra-articulaire, employant une greffe prise sur le péronée. Ce precédé est accompagne de peu de choc. Conséquement chez les sujets âges, cette méthode n'a aucune mortalité et donne d'excellents résultats fonctionnels.

RESUMEN

En los pasados trienta y dos años se han empleado en la Clínica Mayo los injertos óseos en el tratamiento de noventa casos de fractura sin unión del cuallo del fémur. Esta cifra represanta sólo aproximadamente una décima parte del total de los pacientes admitidos en dicha institución con la referida lesión, es decir, un grupo relativamente pequeño y cuidadosamente seleccionado. El porcentaje de casos en los que se ha obtenido la unión ha sido satisfactorio con resultados funcionales altamente favorables. En los pasados diez años, se ha adoptado en la mayoría de los casos la osteosíntesis extra-articular empleando injertos óseos del peroné. El uso de éste método se acompaña de muy leve shock, siendo, por lo tanto, posible su aplicación en el tratamiento de un grupo de pacientes de mayor edad de la que antes se consideraba aconsejable sin que hubiera que lamentar ningún desenlace fatal y con la obtención de buenos resultados funcionales.

Свод

За последние 35 лет в Майо клинике костный трансплантат был применен в 90 случаях несросщагося перелома шейки бедра. Это число представляет собой сравнительно небольшую осторожно выбранную группу, составляющую около одной десятой всех таких переломов бедра, поступивших в клинику. Процент случаев, в которых было достигнуто сращение и хорошая функция, был очень удовлетворительный. В последние 10 лет обыкновенно употреблялся внесуставной остеосинтез при помощи малоберцового костного трансплантата. Это сопровождалось очень небольшим шоком и поэтому способ этот был применим без смертности и с хорошим функциональным результатом при лечении таких пожилых больных, к которым раньше этот способ считался не применимым.

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(Continued from page 25)

CONCLUSIONS

Most observers agree that the intertrochanteric osteotomy is as simple and shock proof a procedure as possible for the aged patient. It results in a marked increase in stability and lessening of the pain element in these disabling conditions of nonunion of the femoral neck. No complications were seen such as development of loss of angle, genu valgum or delayed union. Shortening was less than anticipated and ranged from 2.5 cm. to 3.8 cm.—easily made up by a simple shoe lift. Backache was decreased or eliminated, even in several cases with lumbar arthritis. The operation may be used even in old cases of nonunion. No walking splints or other apparatus except a shoe elevation is necessary.

RÉSUMÉ

L'ostéótomie inter-trochantérique est un procédé simple et à l'épreuve de tout choc chez les pèrsonnes d'un âge avancé. La stabilité est augementée et la douleur est diminuée. Aucune complication tels que perte de l'angle, genu valgum ou union rètardée ne s'est développée. Le raccourcissement est moindre qu'on n'anticipe est varia de 2.5 cm. à 3.8 cm. Le mal de dos est diminué ou éliminé même dans les cas compliqués d'arthrite lombaire. Cette opération peut être employée dans les cas de non-union. Aucun appareil excepté une élévation de la chaussures n'est nécessaire.

RESUMEN

La osteotomía inter-trocantérica constituye, dentro de lo posible, el procedimiento más simple y mejor cuando se trata de pacientes encianos con fractura del fémur sin unión. Con este método se aumenta marcadamente la estabilidad y se disminuye el dolor. Por otra parte, no se presentan complicaciones tales como pérdida del ángulo, genu valgum o retardo de la unión. El acortamiento de la extremidad puede ser menor que el previamente calculado. El dolor lumbar es disminuido o eliminado por completo incluso en los casos con artritis lumbar. El método descrito puede se empleado hasta en los casos antiguos de falta de unión. No es necesario aparato ortopédico sino un simple zapato con alza.

Свод

Для пожилых больных междувертлужная остеотомия является более простой и наименее шок причиняющей операцией. Она увеличивает стабилизацию и уменьшает боль. Осложнения, как потеря угла, genu valgum или позднее сращение, не развивались Спинная боль уменьшалась или совсем прекращалась даже в случаях поясничного артрита. Эта операция применима даже в старых случаях несращения. Помимо под'ема башмака никакой аппаратуры не нужно.

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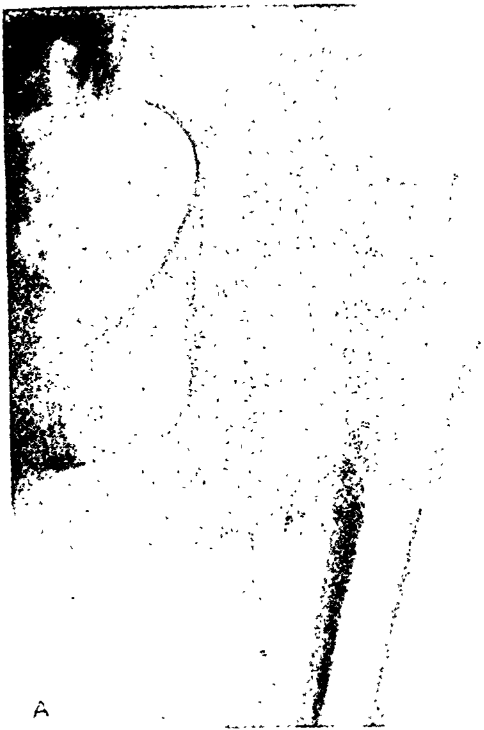
located proximally to the trochanteric region, we have further become convinced of the necessity of attempting to control as far as possible, every one of the factors mentioned if we are to expect a higher percentage of union and functional reintegration in hip fractures.

Complete correction of the anatomical alterations present in a fractured neck of the femur can only be accomplished through perfect reduction and maintenance of this reduction until fixation of the fragments has been carried out.

Leadbetter's maneuver for the reduction of this fracture has been very successful in our experience, provided that the fragments are entirely free from impaction, and that the line of fracture is more or less transverse in direction. In cases presenting slight impaction, this must be broken before attempting



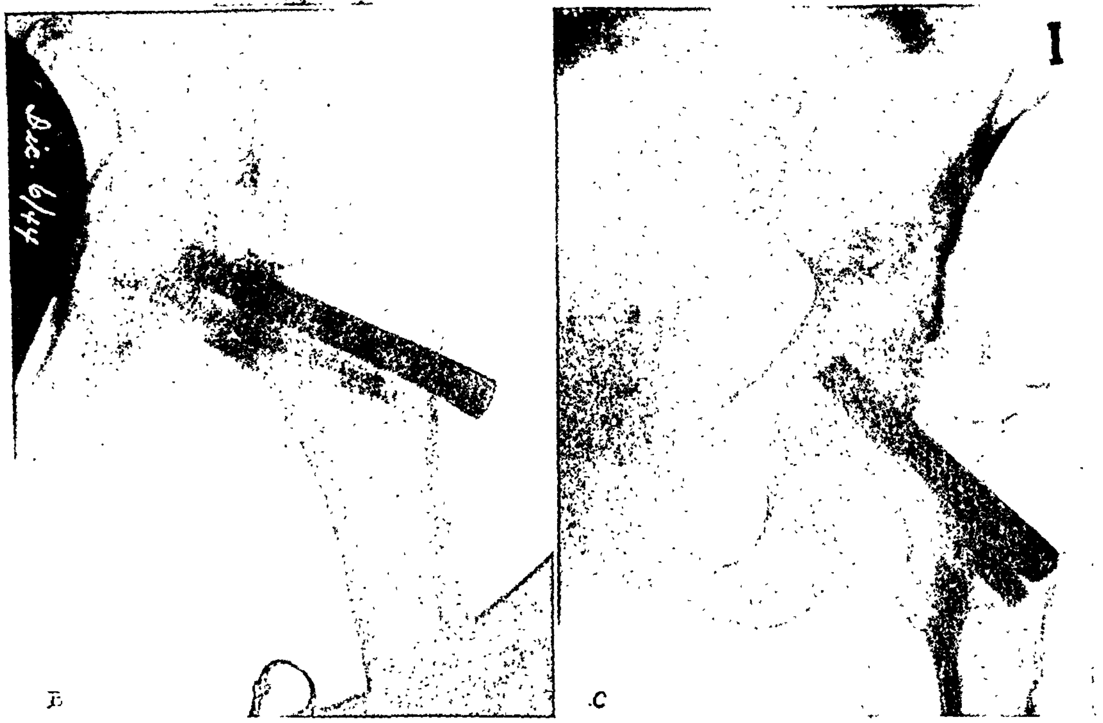


Fig. 3.—*A* Subcapital fracture. *B* Treated by bone graft and nail. *C* Protrusion of nail and marked bone formation around the joint. Final report upon union not obtained.

to carry out the reduction. If the line of fracture is oblique in one or two directions, reduction may be obtained, but traction, abduction, and internal rotation of the extremity must be employed to maintain it until internal fixation is carried out. The "heel test" described by Leadbetter will fail in these cases, and the reduction obtained will be lost if we attempt to carry it out. In order to obviate the tendency to loss of reduction which these oblique fractures have during the process of nailing, we have made it a practice to fix the fragments in position temporarily by means of two Kirschner wires passed through the neck and into the head, until the actual nailing has been accomplished, when they are removed. This very effectively prevents slipping of the fragments while the nail is being inserted.

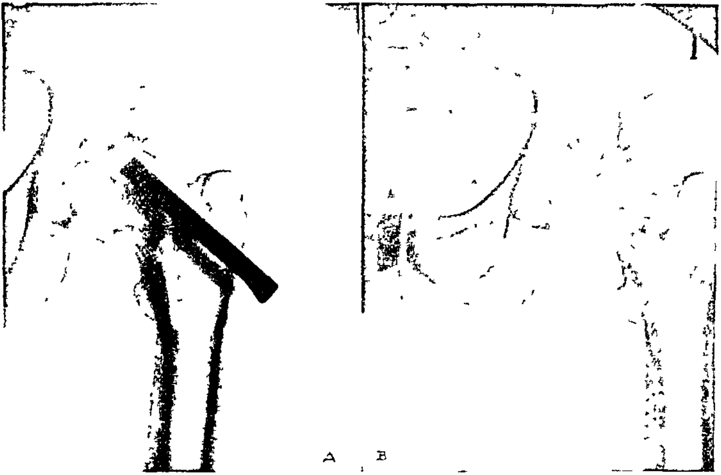


Fig 4.—*A* Bone graft and nail with union *B* A month later, partial necrotic changes similar to osteochondritis dissecans. Nail removed Drilling.

Roentgenographs in both the anteroposterior and lateral planes are indispensable before attempting any type of extra-articular osteosynthetic procedure. To avoid unnecessary delay in developing and fixing the negatives, the use of warm solutions is recommended If it is possible to use two portable roentgen ray units, time will be saved, and roentgenographic control of the operative procedure will be greatly facilitated.

Intra-articular anesthesia using 2 per cent procaine solution, has been our procedure of choice in all types of fracture of the femoral neck, for accomplishing the reduction. Operative procedures have been carried out in the majority of our patients through the use of regional anesthesia at the level of the greater trochanter by infiltrating with 1 per cent procaine hydrochloride. We believe that the type of anesthesia were seen in only two patients. A 94 year old syphilitic woman with loss of sphincter control and senile psychosis was treated by means of an homologous bone graft taken from a donor of the same blood group, and a Smith-Petersen nail. Postoperative immobilization in this patient was impossible. The femoral neck showed rapid absorption, and marked periarticular ossification was observed. The nail protruded into the joint cavity. This patient left the hospital, and the final result could not be observed. Another patient, after union was obtained, developed localized necrotic changes in the head, occurring at the tip of the nail, and similar in appearance to those seen in osteochondritis dissecans. These were noticed more than a year after union had been obtained. The nail was withdrawn, and several drill holes were made through the area of sclerosis in an effort to create new circulatory channels to irrigate the necrotic area. This failed, and the patient finally developed deformity of the head and hypertrophic arthritis of the hip. Recently he has been seen presenting clinical signs of paralysis agitans. He can walk without a limp but hip motion is limited.

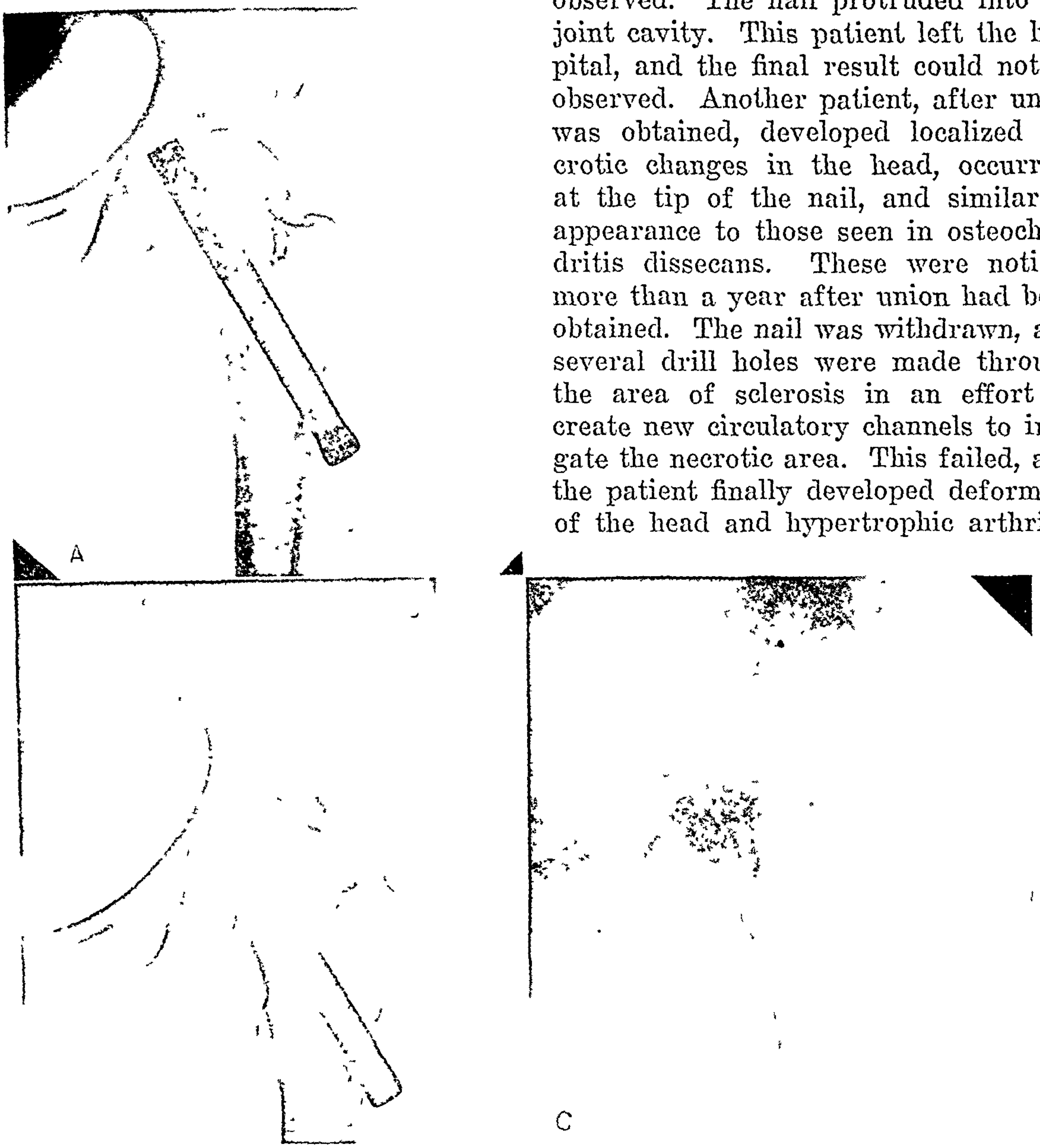
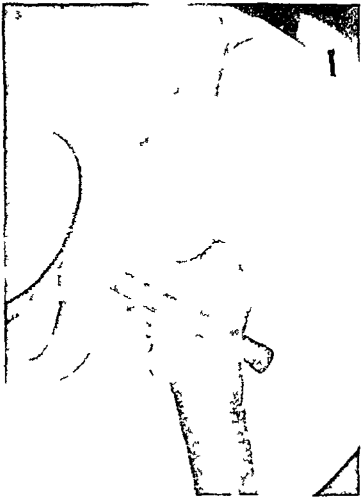


Fig 7 —A Long protruding nail. Union. Nail changed. *B* Late necrotic head with marked condensation and flattening. *C* Bone grafts and drilling as treatment. Osteoarthritis.



The only case of subcapital fracture treated by Sosa's graft bearing nail resulted in nonunion. The nail was withdrawn and replaced by a Smith Petersen nail and an autogenous refrigerated bone graft. This resulted in union with shortening of the neck and some limitation of abduction and external rotation.

Transcervical fractures treated by Smith Petersen nail resulted in union in 96.8 per cent of cases. One case of nonunion was found. A man 45 years old presented a pathological fracture of the neck of the left femur in which marked changes due to Paget's disease were present. The opposite hip was ankylosed due to childhood tuberculous coxitis, and the femur on that side showed great atrophy and shortening. He was treated by Smith Petersen nail after a reduction, which was only fair

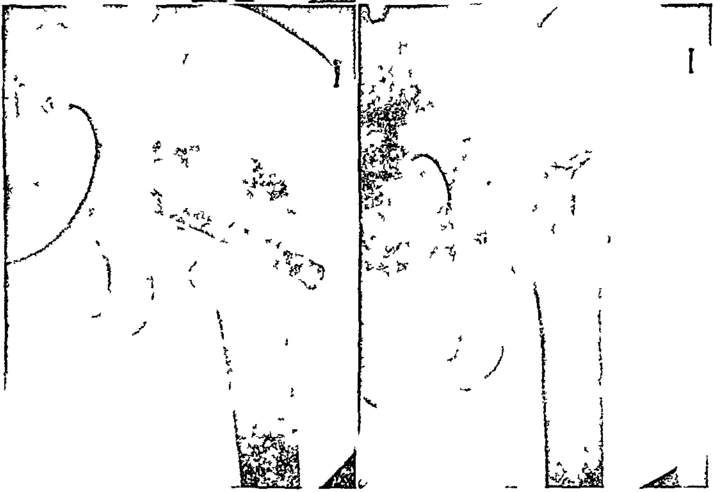


Fig 8—Roentgenogram of subcapital fracture of the neck of the femur. Typhoid fever with secondary osteomyelitis and marked destruction

The circumstances are different in tumors of the upper end of the tibia. In applying the principle of the operation in these cases, no attempt should be made to perform an arthroplasty, in view of the configuration of the femoral condyles. The following case history is offered to illustrate the procedure:

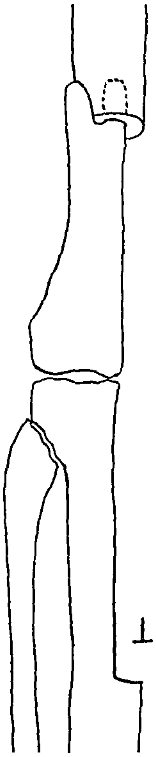


Fig. 3.—Illustrative of the particular kind of anchorage for tibia graft.

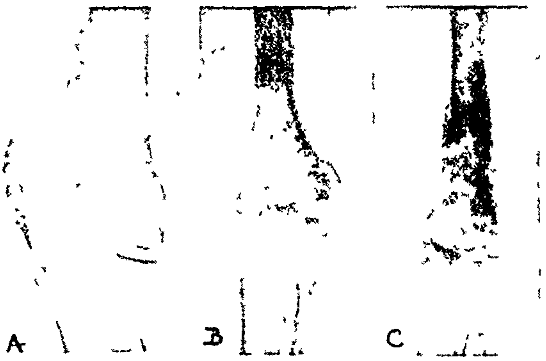


Fig. 4.—*A* Roentgenogram of chondrofibrosarcoma. *B* Same patient, 15 months after operation and *C* shortly after operation. *(B and C reversed in printing.)*

A 52 year old male had symptoms referable to the left knee for fourteen months prior to admission. Roentgenograms taken elsewhere suggested sarcoma or localized ostitis fibrosa of the upper end of the tibia. Roentgen therapy was without avail. A biopsy performed before admission yielded a report of sarcoma. The patient refused amputation.

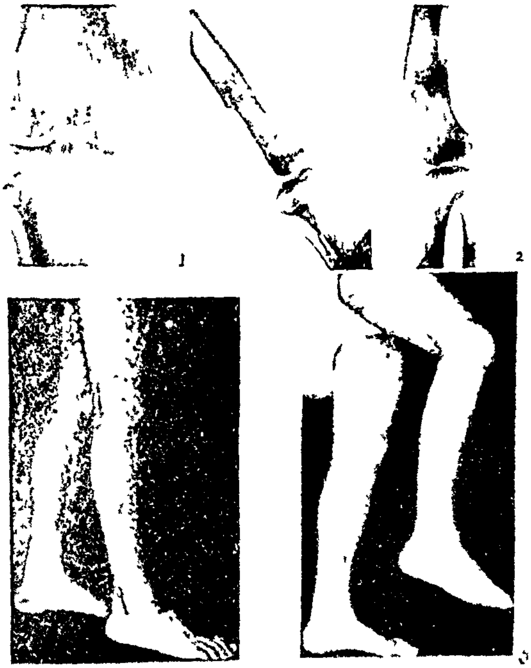
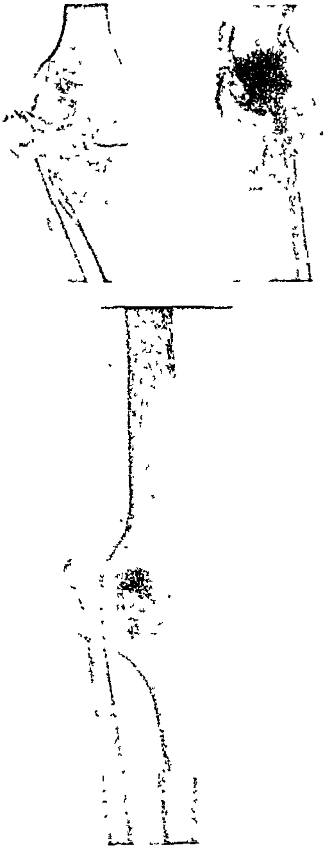


Fig. 5.—1. Fibrosarcoma of lower end of femur. 2. Ten months after operation. 3. Showing range of motion in reconstructed knee joint, ten months after operation.

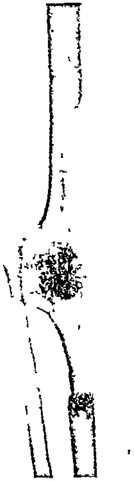
He was admitted to the I. Surgical Hospital of the University of Istambul on April 17, 1939. Roentgen examination revealed destruction of the upper end of the tibia (fig. 6). There was an apparent perforation of the tumor into the soft tissues. The joint space was narrowed; genu varum had resulted due to collapse of the medial condylus. Biopsy report: friable and highly vascularized tissue which in some places perforated the thinned out cortex.



A (upper), *B* (lower)

The histological examination revealed a conglomeration of giant cells surrounded by bands of spindle cells. The spindle cells were partly polynuclear, of different size and hyperchromatic. There was lacunar resorption of the adjacent bone. The pathologist was unable to decide whether the cells were benign or malignant.

The patient consented to a resection of the diseased bone. Operation was performed on April 21, 1939. The knee joint was entered by the Krida utility incision which was extended upward and downward to the middle of thigh and leg. The patella tendon was severed close to its attachment The tibia was exposed and divided 18 cm. below the line of the joint, excising the tumor completely. About 1 cm. of the articular surface of the femur was sawed off. The medial half of the lower femur was exposed and cut sagitally with a motor saw and chisel. The upper end of the bone graft thus obtained was tapered and plugged into the medullary cavity of the tibia. Through this arrangement



C

Fig. 6—*A* Giant cell tumor of upper end of tibia *B* Six weeks after operation *C* One and one half years after operation

from indirect violence the month before. There follows a history of progressive enlargement. "A diagnosis of myositis ossificans was made. During September 1924, the mass, which had been enlarging slowly began to grow rapidly and increased 4 cm. in size in four weeks. Pain became more severe and could not be controlled by codein." An operation was decided upon and a large unencapsuled reddish-gray mass was exposed. Considerable material was cut away. "The specimens were examined by several pathologists and a diagnosis of myositis ossificans made. There was no evidence of malignant disease." Later amputation was performed. "One and one half years after amputation there were no evidences of recurrence. The patient looked well." The patient was readmitted on April 19, 1929 (i.e., 6 years after onset), and died shortly after. The autopsy revealed bony masses in the right and left chests—bony metastases were also found in the cervical lymph nodes on the right side," but a record is made that "No cells are seen from which a diagnosis of malignancy can be made." . . . "The clinical history is of prime importance in making a diagnosis in this case. The lesion was progressive from the onset. The course might have been modified by the first operation, for myositis ossificans is apt to be made worse by operation."

The second is from my own experience. A young soldier from Dunkirk was sent for roentgen-ray examination of a somewhat tender mass in the outer aspect of the right thigh. I reported "Typical traumatic myositis ossificans." The orthopedic surgeon in charge of the case consulted me and asked if there were any doubts, for there was no history of trauma. I explained that with the excitement of escape from Dunkirk, it was unlikely that he would notice even severe trauma. The limb was immobilized in plaster. The consulting surgeon examining the roentgenograms diagnosed it as sarcoma and ordered the plaster to be removed. Opportunity was taken to secure more roentgenograms for confirmation. These not only confirmed my former opinion but supplied evidence of a similar but less extensive lesion on the opposite femur. Biopsy was urged but I pursuaded the orthopedic surgeon not to, because (1) at this stage it would still further invalidate the patient, (2) it would provide material which might well be reported as sarcomatous (see Ewing's opinion). (3) If the latter did occur he must take the responsibility of amputating both lower extremities and (4) if he left it immobilized, serial roentgenograms would indicate the nature of the lesion and the patient would run little extra risk. Amputation in sarcoma offers little chance of cure. This advice was accepted and the patient transferred to another hospital where he was used at the Final Fellowship examination of the Royal College of Surgeons. All four professors of surgery agreed that it was a sarcoma and all counselled biopsy. This was performed, but fortunately nothing typical of sarcoma was discovered. After a prolonged convalescence. during which the lesions showed the characteristic roentgenographic resolution, the patient was discharged from the army as unfit, owing to the limitation of movement of the operated thigh.

In previous papers I have illustrated with photographs and roentgenograms lesions of bone which were submitted to biopsy. The histologic examination of the material obtained in some cases which appeared roentgenographically to be simple, resulted in reports indicating high malignancy, yet the patients recovered without any further operative procedure. In others. though the roentgenograms showed features, such as the irregular periosteal accretions and disintegration or sclerosis of the underlying cancellous tissue which occur in malignant tumor, the histological preparations were reported on as showing "No sign of malignant disease"

It is by no means uncommon to find atypical but very definitely abnormal roentgenographic appearance of lesions which yield histological preparations that are at least equally atypical In my experience, when the roentgenographic appearance is indefinite, biopsy makes no useful contribution to the diagnosis

Geschicter and Copeland[1] who, though they advocate biopsy, state, "Frozen sections should be made with an immediate and competent pathologic report, and the operation proceeded with at once If facilities for frozen sections are not available and consultation is required in the diagnosis, the roentgenograms and not the sections should be sent, as a diagnosis can usually be obtained roentgenologically without the necessity of exploration, if the proper authorities are consulted This is the method advocated by Bloodgood"

An exploratory operation on an inoperable lesion, whether simple or malignant, I believe to be unjustifiable and even in other cases if it is solely for obtaining material for histological examination, it contributes little to the treatment of the case A localized resection of the affected bone is more reasonable for it provides the pathologist with the whole lesion from which he can choose his own material, if benign it removes the cause of the trouble, and if malignant it contributes no more to the patient's disability than a biopsy Extensive exploration with removal of multiple segments from different parts of the tumor, as advised by some authorities, may seriously affect the stability of the bone, yet the material secured by a biopsy needle may be very misleading There is evidence to suggest that biopsy accelerates the growth of the tumor and may be a factor in its dissemination In those tumors such as osteoclastoma which are to be treated by X radiation, the removal of tissue may be equivalent to the removal of the scaffolding on which repair is dependent If biopsy is decided upon, the lesion should be accurately localized by roentgenography and a skin marking made to indicate the site to the surgeon It is not unusual for material to be taken from bone away from the lesion shown on the roentgenogram The material removed should be sent for histological and bacteriological examination Some degenerated tumor tissue has an appearance which may be mistaken for pus (See case recorded on page 64)

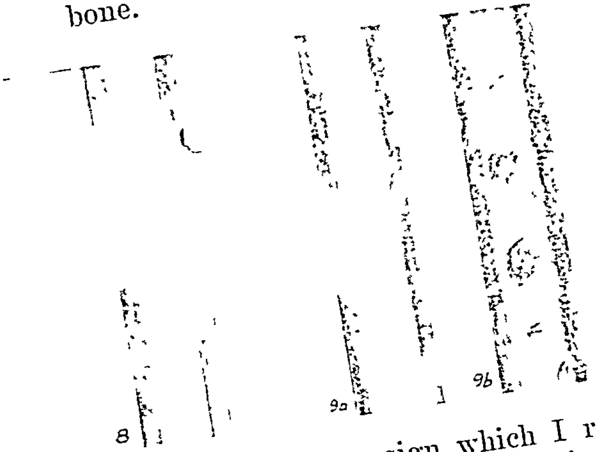
Roentgenographic Investigation John Hunter[6] made the comment "It is surprising to see what little curiosity people have to observe the operations of nature and how very curious they are about the operations of Art" If that was true in his day, how true it is today, though we have in roentgenography a method of observing the inner operations of nature without giving the patient any mental or physical pain Only too often the roentgenogram is used to obtain a spot diagnosis which is precipitately followed by operative measures instead of using it to watch the development, regression or progression of the lesion before and during the exhibition of medicinal agents

With the demand for earlier and earlier diagnosis, we are meeting with the early roentgenographic signs of lesions Though these may be widely different in their pathology, their manifestations may be indistinguishable from one another for a time It is only by the roentgenographic study of

(8) Localized, irregular cyst-like extension and expansion of bone;

(9) Metastases in other bones or the lungs; or

(10) Large expanding soft tissue tumor associated with normal underlying bone.



(1) If there is one sign which I regard in itself as more highly suspicious of cancer than any other, it is an ill-defined and irregular localized area of increased density of a bone which has previously not been the site of any definite inflammatory change. This appearance suggests that in this localized area, the interstices of the cancellous tissue have been packed with calcium. The margin of the reactive area on the medullary aspect of the tumor being ill-defined, suggests that the tissue is reacting as the malignant cells gradually infiltrate it—indeed this is the histological picture. The cortex of the segment involved may appear to be irregular and somewhat thicker but no spicules may be seen radiating into the soft tissues. As the soft tissue tumor grows, poorly defined calcium deposits resembling wisps of cotton wool may be seen. Serial roentgenographs will show a progressive spread of this dense reaction in the bone with further irregularity and thickening of the cortex and denser wisplike strands of calcified tissue in the larger soft tissue tumor. After some months, central destruction of the dense bone may occur followed by its decalcification.

Such lesions have been called sclerosing sarcoma of bone. Histologically they show features resembling all forms of connective tissue from the most primitive with irregularly formed and disposed osteoblasts, fibroblasts and osteoid tissue to the more mature myxomatous, chondrous or osseous tissue. This tissue may be regarded as benign, as in the cases I have published.[7] Such tumors occur most frequently in the opposing ends of the diaphyses of the tibia and femur but they are occasionally seen in other bones.

Geschicter and Copeland[1] claim the very high figure of 25 per cent of cures with early amputation. These lesions do not respond favorably to X-radiation. Some metastases from carcinoma of the prostate show as rounded areas of increased density before they coalesce to produce a general increase in the density of the affected bone.

(2) Needle-like spicules radiating in palisade fashion into the soft tissues at right angles to the superficial surface of the cortex of the bone, are another highly suspicious sign, particularly when the spicules are fine, straight and needle-like in shape. As the tumor is watched, it may be seen that, as the spicular growth becomes absorbed at the primary focus, it spreads along the shaft to its extremities. Such periosteal spicular growth may be associated with an increased density of the affected bone, in marked contrast to the apparently unaffected adjacent epiphyses. In some cases of secondary carcinomatous metastases, particularly from the prostate, the periphery of the cortex of the affected bone may appear to be woolly, but on closer examination (of a roent-

genograph taken with a fine focal spot) it will be seen that there are fine, closely packed spicules ¼ to ½ inch (.625 to 1.25 cm.) in length, forming a plush like pile. Localized carcinomatous metastases may show an apparent destruction of the cortex with spicules radiating out from the subsurface of the affected segments, but, as with most secondary carcinoma, in contrast with sarcoma, there is usually little soft tissue swelling. In Ewing's sarcoma, the bone may have shown initially a segment of expanded bone with a thickened and denser cortex which has a regular periphery but an irregular, coarse cancellous trabeculation within. However, after injury to the bone, accidental or surgical, fine radiating spicular growth may be seen at the site.

Some localized syphilitic bony lesions, as well as the bone beneath an indolent ulcer, such as a varicose ulcer, may show what have been described as spicular growth, but this is coarser and quite different in appearance to the radiating spicular growth of sarcoma—it is more a response to inflammation of the periosteum.

(3) Periosteal accretions in themselves are not the sure sign of cancer which is so often taught. Multiple periosteal accretions which run parallel with the periphery of the cortex, associated with more or less complete obliteration of the normal cancellous pattern within, is seen in Ewing's sarcoma, but localized chronic inflammatory lesions, particularly syphilitic, are indistinguishable. When the periosteal accretions are broken down in the middle so that they form a cuff on either side of the primary focus, with its greatest dimension toward the lesion and gradually diminishing in caliber away from the lesion, the appearances are more likely to be those of sarcoma, particularly if there are in the soft tissues over the neighborhood of the primary focus, ill defined wisps of calcium deposit. In Geschicter and Copeland's book,[1] it is stated that "Periosteal bone formation is rarely present in tuberculous osteomyelitis"; this is a misstatement for periosteal accretions are common in tuberculous osteomyelitis. They may form a very expanded involucrum within which the original shaft is destroyed leading eventually to the appearance called "spina ventosa." In other cases the accretions may show as multiple parallel deposits usually over a fairly well defined area of destruction of the original bone and perhaps an indication of a poorly defined sequestrum within the focus. In some cases, the periosteal accretion in tubercle is fleeting—present at one examination and gone the next, to reappear with a further phase of activity.

Periosteal accretions may be seen over a Brodie's abscess during a phase of reactivity and over normal bone or a simple cyst or bone tumor which has been subjected to trauma or inflammatory changes a week or so previously. Acute osteomyelitis which has been diagnosed in its early stages and aborted by treatment with sulfathiazol or penicillin may show a periosteal cuff and irregular spicules in association with an adjacent localized area of decalcification which roentgenographically may be indistinguishable from sarcoma, while in the early stage the affected diaphysis may show some degree of osteoporosis, as the result of effective treatment, it may develop a density which is in contrast with the unaffected epiphyses. The reactive changes at the site of an incomplete fracture, in a patient who does not remember trauma to the site which is now painful, have been mistaken for evidence of sarcoma

All in all, 1,485 cineplastic procedures had been carried out. Another German series, studied in 1928, showed that 68 per cent of the cineplastics worked more or less satisfactorily at that time.

Since then, the operative technic has been improved, the construction of prostheses has been simplified, and, perhaps, surgeons' eyes have been sharpened as to proper selection. The results, therefore, should be better.

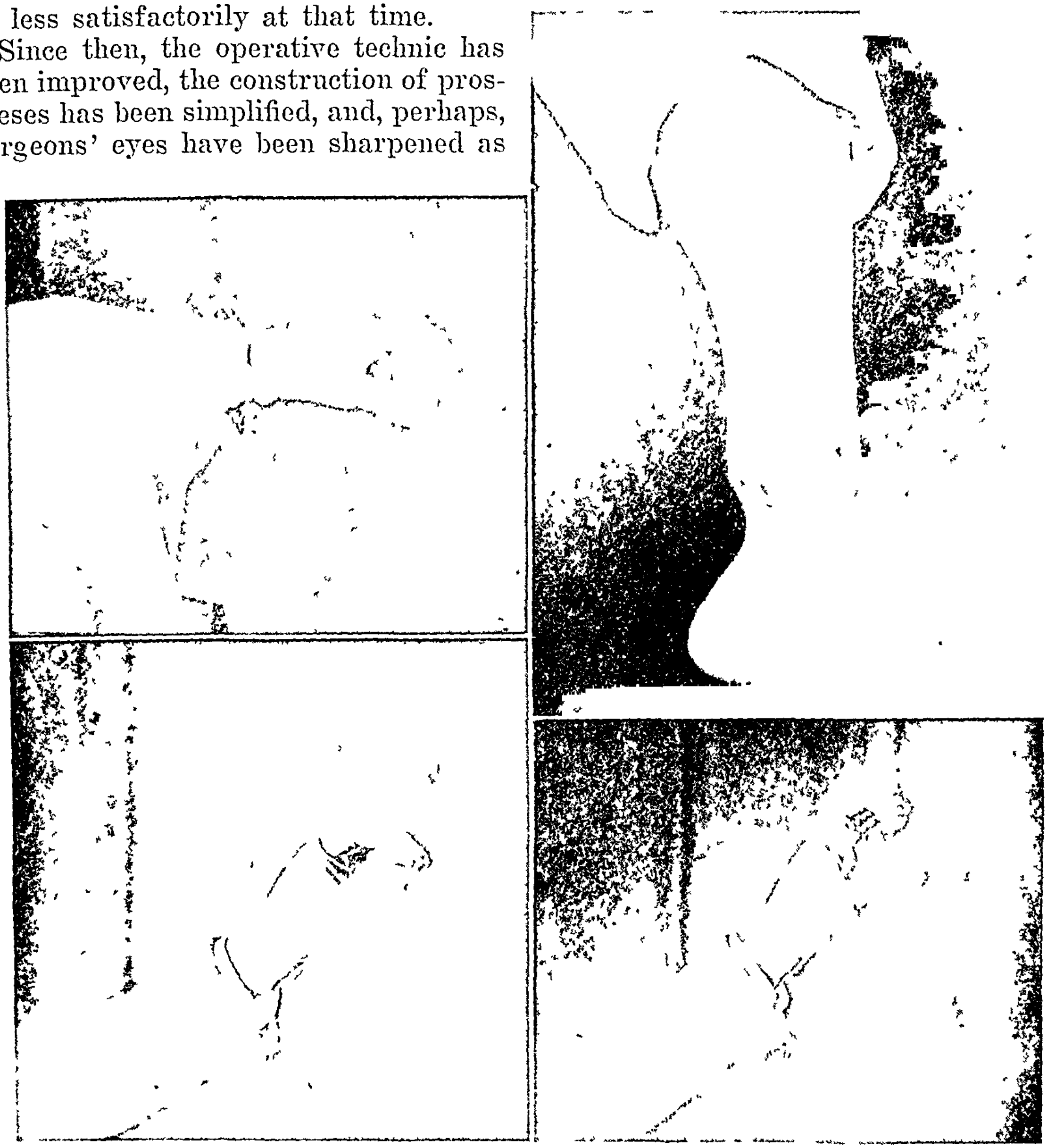


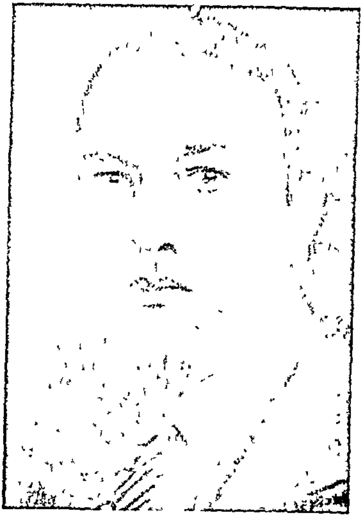
Fig 2—Patient with amputation of left arm, showing stump with pegs inserted and range of finger motion

Since the publication of our monograph, we have operated upon a number of patients, all from civil life. A few details concerning 2 of the cases are appended, as they are of special interest—the first, because it was a bilateral amputation; the second because the cinetization was done eighteen years after the original operation.

The subject of the bilateral amputation was a 36 year old employee of a

IN MEMORIAM

PROF ALBERTO GUTIERREZ, F I C S (ARGENTINA)



Ha transcurrido ya mas de un año del fallecimiento del que fue ilustre Profesor Dr Alberto Gutierrez, de Buenos Aires, pero el tiempo pasado no ha logrado borrar de la memoria de quienes le conocieron y admiraron el recuerdo de aquel gran hombre de *ciencia que tanto contribuyó al desarrollo de* la medicina y cirugía Su desaparición, ocurrida el 26 de febrero de 1945, ha dejado en la medicina suramericana un puesto vacante, muy difícil de llenar

El Dr Gutierrez al fallecer contaba solamente 52 años de edad, pero sus aportaciones en el campo de la medicina le habían ya elevado a un puesto preeminente, no sólo en su patria sino en el extranjero Entre sus trabajos figuran unas 300 obras de distinta índole, todas ellas de extraordinario interés científico Citemos, como ejemplo, los dos tomos de sus lecciones de Clínica Quirúrgica En 1941 publica su "Tratado de Clínica Quirúrgica," por desgracia sin terminar, como resultado de su experiencia personal tan brillante y fecunda

Para difundir lo más posible los conocimientos sobre la experimentación médica, fundó el Dr. Gutierrez la "Revista de Cirugía de Buenos Aires" (1922) y la "Revista Argentina de Anestesia y Analgesia," órganos de expresión científica que tanto han influido en la enseñanza del arte de curar.

Desde el comienzo de su carrera se reveló este hombre como un científico destacado y su tesis sobre "Anatomía Topográfica del Peritoneo" mereció el premio de la Facultad cuando su autor tenía tan sólo 24 años, uno después de haberse graduado, precisamente en la Facultad que le otorga el premio.

Continuó sus estudios como Jefe de Trabajos Prácticos de Anatomía Topográfica y bien pronto ascendió a Profesor suplente de dicha asignatura Trabajando en la Facultad llega a obtener la Docencia Libre y la Suplencia de la Cátedra de Clínica Quirúrgica En el Hospital Español contribuye con sus conocimientos y su incansable labor al mejoramiento de dicha institución, y por sus méritos alcanza el cargo de Jefe del Servicio de Curugía de Mujeres y Ginecología

Sus actividades científicas y su profundo conocimiento le llevaron a ocupar numerosos [illegible] de prestigio, entre los que citaremos los siguientes Director de la Librería y Archivos de la Sociedad de Cirugía de Buenos Aires, Secretario y, más tarde, Presidente de la Sociedad Médica del Hospital Español, vice-Presidente de la Asociación Cultural Española y Director de la Clínica Quirúrgica Gutierrez.

Fué el Dr Gutierrez miembro de una familia de médicos Su padre, el eminente Dr. Avelino Gutierrez guió y alentó sus pasos desde el comienzo de la carrera Su tio, también médico de prestigio, ejerció influencia en el derrotero científico del nuevo médico Su espiritu investigador indujo al Dr. Gutierrez a visitar nuevos ambientes científicos y viajó por Esapaña, Francia, Inglaterra, Brasil y Chile, dejando en todos estos países una huella de admiración y respeto, tanto por sus [illegible] íficos como por sus dotes p[illegible] a caballerosidad

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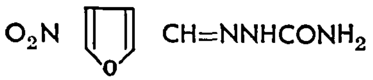

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S. fecalis	+	1— 40,000	1— 5,000
S. anhemolyticus	+	1— 40,000	1— 10,000
D. pneumoniae I	+	1— 40,000	
N. gonorrhoeae	—	1—100,000	1—100,000
N. intracellularis	—	1—100,000	1— 40,000
E. coli	—	1—100,000	1— 80,000
S. schottmuelleri	—	1—100,000	1—100,000
S. paratyphi	—	1—100,000	1—100,000
E. typhosa	—	1—200,000	1—100,000
S. dysenteriae	—	1—200,000	1—100,000
P. vulgaris	—	1— 20,000	1— 10,000
Cl. welchii	+	1— 20,000	1— 5,000
Cl. tetani	+	1— 20,000	1— 5,000
Cl. novyi	+	1—200 000	1— 40,000
M. tuberculosis (var. hominis—607)		1—200,000 (48 hours)	1— 5,000
M. tuberculosis (Gary)		1—500,000 (30 days)	1— 40,000 (30 days)

midwestern power and light company who had lost both his hands in a pole top accident in 1941 (fig 1) The right forearm stump was just long enough to permit cinetization The left forearm stump was too short, so that the upper arm had to be used The operations were performed in January and February respectively, of 1943 After an uneventful recovery the patient received his artificial arms in March 1943 and was sent home In June of the same year the company for which he works sent us a copy of their "Employees' News," containing pictures of him, some of which are here reproduced

The second man was a 21 year old writer who had lost his hand at the age of 3, also through an electrical accident He was well informed about the various possibilities and had decided for himself to have a cinetization done Despite the eighteen year interval and despite the fact that it was the left hand, we felt an attempt at cinetization justified in view of his being so definite about it The forearm was only about 1 inch (2 5 cm) long, so that naturally the upper arm had to be used for canalization The operation was performed in November 1944 A few months later he was able to use the prosthesis to his own satisfaction The pictures (fig 2) show the stump with the pegs inserted, and the range of active opening and closing of the fingers

In conclusion, it may be said that the present operative technic, as well as the construction of the prosthesis, is perhaps not the last word in solving this complicated problem It should not be difficult, for instance, to improve the appearance of the artificial hand, which still leaves much to be desired But, on the whole, we are convinced that the work is proceeding along the most promising route yet opened

SUMMARY

The underlying principles involved in cinetization are summarized Reasons for the lack of general acceptance of the ideas involved are suggested The importance of considering carefully all conditions, mental and emotional, as well as physical, is stressed Reference is made to work of this character done following World War I Two cases are briefly described

SOMMAIRE

Les principes fondamentaux de la cinetisation sont enumeres L'importance de considerer soigneusement toutes les conditions mentales et emotionnelles et physiques est soulignée L'ouvrage fait apres la premiere guerre mondiale est discute L'auteur rapporte deux cas brievement

RESUMEN

En el presente articulo se resumen los principios inherentes a las operaciones kineplasticas, mencionandose las razones por las cuales el procedimiento no ha sido generalmente aceptado Se pone de relieve la importancia de valorar cuidadosamente todos los factores tanto mentales y emocionales como físicos Finalmente, se hace referencia a los trabajos de este tipo llevados a cabo en Alemania despues de la primera Guerra Mundial Se presentan y estudian brevemente dos casos

Свод

Дан обзор основных принципов кинетизации Выражены возможные причины предотвращающие общее принятие этих принципов Подчеркнута важность принятия в соображение не только физических, но также умственных и эмоциональных факторов Сделана ссылка на подобную работу в Германии после Первой Мировой войны Кратко описаны два случая

a portion of the iliac crest, which interfered with the proper exposure of the body. No pus was encountered, but the bone was extremely vascular. A considerable portion of the body was curetted away. This cultured staphylococcus aureus, and microscopically showed changes characteristic of chronic osteomyelitis. Gradually the operative wounds healed, but over a year elapsed before the patient was well. This case, in contrast to the first, illustrated the protracted convalescence in a chronic case, in which the diagnosis had not been made for many months after the onset.

The next case involved one of the cervical vertebrae and called for a modification of the operative technique. A negress about 20 years old was admitted to my service at the Hospital for Joint Diseases. She complained of severe pain in the neck of several months' duration. She had lost weight. There was no definite history of exposure to tuberculosis but this condition was suspected on the basis of roentgenograms which showed a destructive process involving the fifth and sixth cervical vertebrae. The tuberculin test was positive in dilution of 1 to 100,000. On the other hand, the patient was running a septic type of temperature with peaks up to 104 degrees and her blood count showed a leucocytosis. These observations spoke for a pyogenic osteomyelitis. Despite immobilization in a plaster of paris shell, she became worse. Because of the uncertainty of the diagnosis, I felt that an exploration was advisable. A five inch (12.5 cm.) oblique incision was made posterior to the sternocleidomastoid. By blunt dissection, the cleavage line was found between the scalene group anteriorly and the erector spinae group posteriorly. The separating fascia was readily followed down to the tip of the transverse process of the sixth cervical. By running the finger along the anterior surface of the transverse process, the body was easily reached. Pus was encountered. A smear showed tubercle bacilli. The wound was therefore carefully sutured. It healed temporarily, but the patient continued her downhill course and died about a month later. In this instance, I have often questioned the wisdom of my surgical judgment; possibly had I done a fusion of the cervical spine, I might have saved the patient's life.

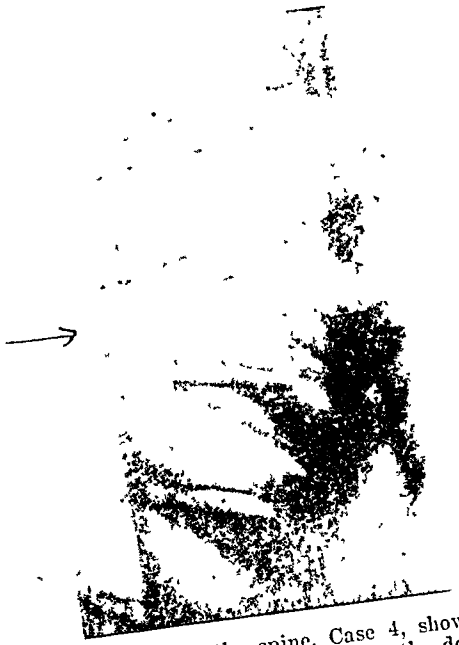
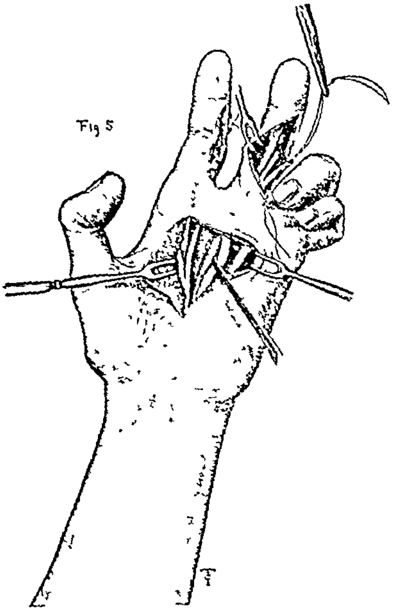
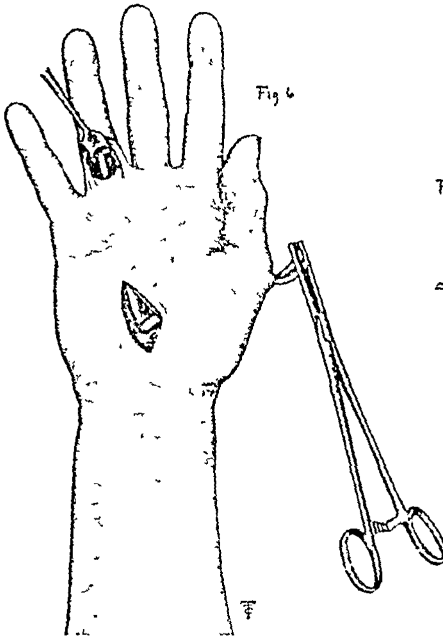


Fig. 2.—Lateral view of the spine, Case 4, showing the changes in the body of the seventh dorsal vertebra.

Fortunately, the outcome of the next case was more encouraging. My first three patients had had infection; this fourth case was the first neoplasm of the series. The patient was a young woman of 23. She had been admitted as a private patient of Dr. Kestler, to the Hospital for Joint Diseases with a history of pain in the dorsal region of the spine of several months' duration, with radiation to the legs and increasing difficulty in walking The roentgenogram showed slight anterior wedging, mottling, and a vertical striation of the seventh dorsal vertebra (fig 2) There was a paravertebral shadow about 3 inches (7 5 cm) long which was interpreted by the x ray department as an abscess This inclined the roentgenologist to a diagnosis of tuberculosis The spinal fluid showed total protein of 250 milligrams On neurological consultation, the favored diagnosis was malignant neoplasm Dr Kestler applied a plaster of paris corset and sent the patient home She was readmitted six weeks later At that time, I was asked to act as orthopedic consultant I found that the patient had become worse She was unable to walk a step, the weakness of both legs was so marked that she could scarcely flex the thighs and dorsiflex the feet Sensory changes had developed hypesthesia and hypalgesia of both legs extending downward from the level of the eighth rib to the knees, the calves and feet were almost totally anaesthetic The knee jerks were exaggerated, also the Achilles reflexes Roentgenograms did not show any changes other than those previously noted It seemed to me that the patient was suffering from a neoplasm of the seventh dorsal vertebra which was causing pressure against the cord at that level The nature of the tumor could not be decided except by exploration Since this was my first experience with a dorsal vertebra, an additional modification of the operation was necessary This consisted in a horizontal incision about 5 inches (12 5 cm) long extending in the direction of the right seventh rib, which met the usual vertical incision near its center Since I thought that a laminectomy would probably be necessary to relieve pressure against the cord, the vertical incision was placed in the midline The patient was placed obliquely on her left side, with a tunnel casette beneath the chest After exposure of the seventh rib about 3 inches (7 5 cm) from its posterior angle, a control roentgen picture was taken to verify the localization Then the laminae of the seventh and eighth dorsal vertebrae were exposed by the Hibbs technique The erector spinae were cut transversely so as to get complete exposure of the lateral process of the seventh and its articulation with the seventh rib The posterior 3 inches (7 5 cm) of the rib were resected and a sufficient portion of the lateral process to permit visualization of the body of the seventh dorsal The laminae of the seventh and eighth were rongeured away to expose the dura Before opening this, I decided to explore the body To do this, the posterior portion of the pleura was gently separated from the vertebrae At one spot, there was a small tear, through which the lung could be seen, a stitch was taken at once to repair the damage When the vertebral body was well exposed, an additional control roentgen picture was taken with a small drill imbedded in the vertebral cortex No abscess or other pathology could be found to explain the paravertebral shadow noted on the plate After roentgenographic verification of the position of the small drill, a larger one was used to bore a hole in the body of the seventh dorsal As this was withdrawn, a veritable fountain of blood gushed out of the diseased bone This was controlled by digital pressure which was kept up for several minutes Then very rapidly the interior of the bone was curetted, the instrument seemed to fall into a hole, so hollow was the vertebra A packing [illegible] ed into the body, two add [illegible] we sublimis tendon of the middle or ring finger is brought out through the palm and run subcutaneously across the thenar eminence, is one of the simplest methods and restores almost normal opposition if the transplanted muscle is strong enough and all fixed deformity has been corrected.[34] The lower border of the transverse carpal ligament forms a smooth pulley for the transplanted tendon, which is split and inserted into the distal end of the first metacarpal bone and the base of the proximal phalanx of the thumb, so that it runs in the same direction as the fibers of the paralyzed opponens pollicis. Since opposition of the thumb and flexion of the fingers normally take place together as two parts of a pinching action, little or no reëducation of the transplanted muscle is needed (figs. 6, 7).





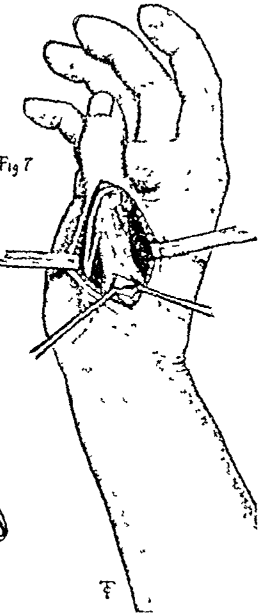


Fig. 5.—TRANSPLANTATION OF THE FLEXOR DIGITORUM SUBLIMIS TENDONS FOR CLAWHAND DEFORMITY. Following median or ulnar paralysis, the transplantation of flexor digitorum sublimis tendons through the lumbrical canals into the extensor expansions will, in a large measure, restore active flexion of the metacarpophalangeal joints. Fig. 6.—TRANSPLANTATION OF A FLEXOR SUBLIMIS TENDON INTO THE THUMB TO RESTORE THE POWER OF OPPOSITION. In the author's modification of Royle's operation, the flexor sublimis tendon to the ring or middle finger is sectioned at the base of the finger and brought out through a palmar incision. The distal margin of the transverse carpal ligament acts as an excellent pulley for the transplanted tendon as it runs subcutaneously across the thenar eminence. Fig. 7.—TRANSPLANTATION OF A FLEXOR SUBLIMIS TENDON INTO THE THUMB TO RESTORE THE POWER OF OPPOSITION. The thumb is first rotated into a position of full opposition. (An osteotomy at the base of the first metacarpal bone is performed if necessary.) Good active opposition is then maintained by threading one segment of the transplanted sublimis tendon through a hole in the distal end of the metacarpal and the other through a subperiosteal tunnel at the base of the first phalanx.

THE LOWER EXTREMITY

In the lower extremities orthopedic procedures are directed primarily toward correction of deformity. Elimination of muscle imbalance which causes deformity is next in importance. Occasionally it is possible actually to improve muscle function, eliminate a limp, and increase endurance. A person can walk quite well on a completely paralyzed extremity or upon an artificial leg. It is only necessary to be able to lock the parts in a good weight bearing position. The extensors of the hip and knee and the flexors of the foot and ankle aid greatly in accomplishing this Muscle transplantation to reinforce these muscle groups should be considered, but rarely are muscles available with strength great enough to justify their transfer In paralysis of the quadriceps one or more of the hamstrings may be transplanted forward The improvement which results is usually due to correction of the slight flexion contracture of the knee which has developed as a result of shortening of the unopposed hamstring muscles

When attempting to restore function in the lower extremity the foot should be considered first It is a stable pedestal during stance and a strong lever when walking

Pain in the foot or referred to the foot, which is usually aggravated by weight bearing, represents a major disability *Contracted tendons or muscles*, especially if adherent to nerves, may cause severe pain on walking Radical excision of scarred muscle, lengthening of contracted tendons, and above all, freeing of nerves from scar tissue in the foot and leg should be undertaken whenever an injured extremity remains painful If there is intraneural scarring, or if the nerve must be replaced into a scarred bed, high section of the nerve often results in more functional improvement than neurolysis or nerve suture A painful partial lesion is much *more disabling than a complete lesion* In purely sensory nerves, especially in the lower extremity, section of the nerve above the scarred area is almost always preferable to nerve suture Even in the larger nerves, section should be performed if it is believed that the injured nerve trunk is apt to remain painful This requires qualification, however, as section of median or sciatic, would not be a good treatment for causalgia

After section of the posterior tibial nerve in the calf there is usually a tendency toward cavus deformity of the foot and clawing of the toes This is rarely severe enough to warrant more than correction of the individual toe deformities by arthrodeses of the interphalangeal joints, capsulotomies, or transplantation of the long flexor muscles into the extensors In severe claw foot, transplantation of all the extensor tendons into the necks of the metatarsals, accompanied by plantar fasciotomy, may be necessary to flatten the foot and correct the deformities of the toes

When muscle power has been completely lost below the knee, every effort should be made to produce in the foot a pedestal for standing and a lever for walking [3] With a well fitted prosthesis an amputee can walk without any appreciable limp A foot similar to an artificial one can be produced by a carefully planned foot stabilizing procedure Many different types of bone operations have been designed for paralyzed and deformed feet The exact type of procedure chosen for the individual case is not important if the following criteria for satisfactory foot stabilization are fulfilled

(1) The plantar surface of the foot must be smooth and in such a position that the body weight is distributed to its entire area,

(2) There must be a good lateral stability when the foot is placed upon the ground, even though inverting and everting muscles are paralyzed

(3) The foot must be placed beneath the leg in such a position that the "push off" from the metatarsal h [illegible] reestablished,

(4) Ankle joint motion [illegible]
limited range shou [illegible]
sible, but good [illegible]
even after a [illegible]

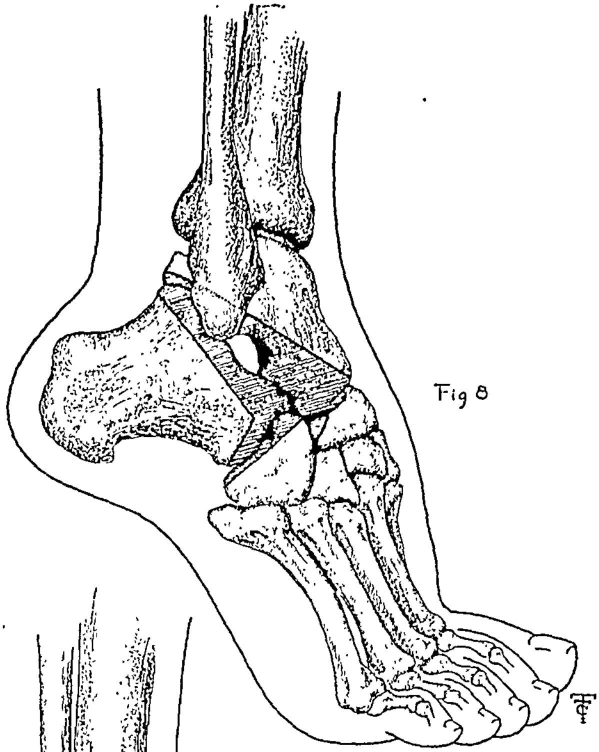


Fig 8

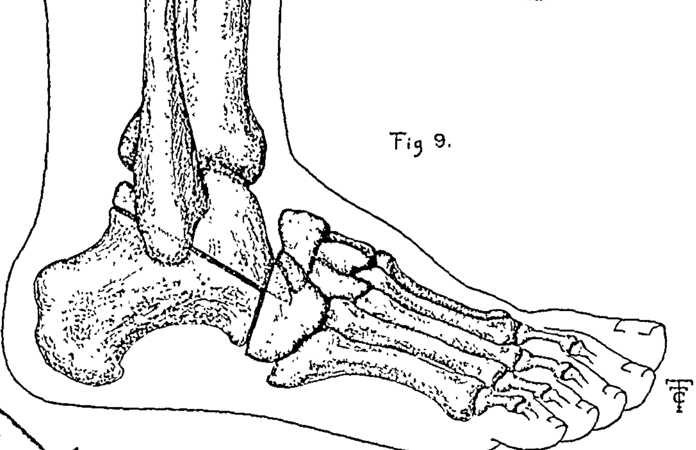


Fig 9.

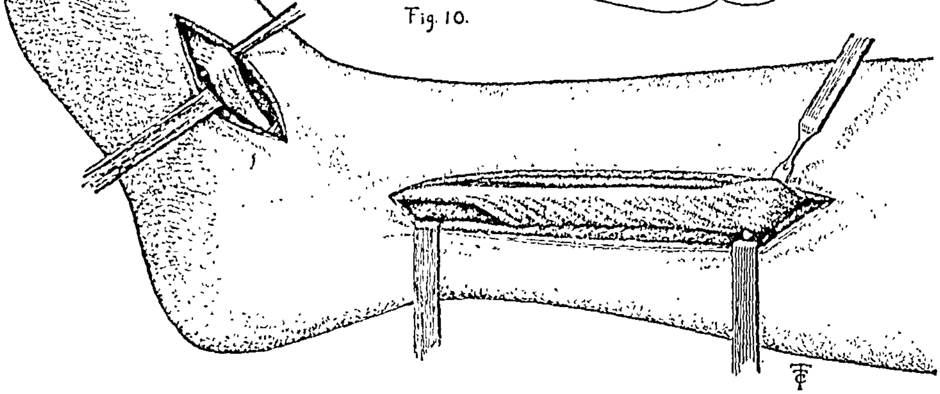


Fig. 10.

alignment of the extremity upon the foot is perfect;

(5) The foot should be painless (Complete anesthesia is better than paresthesia or dysesthesia)

(6) Supporting braces should be unnecessary.

(7) The foot should fit into an ordinary shoe.

In equinus and equinovarus deformities, following peroneal or complete sciatic nerve paralysis, the Lambrinudi procedure, which involves the removal of appropriate bone wedges in the subastragalar and midtarsal joints, accomplishes correction of the deformity with mathematical precision[17] (figs. 8 and 9). Numerous other types of foot stabilization,[9, 13 18, 38] posterior bone blocks,[8 37] tenodeses and tendon transplantations[1, 19 20, 21] are of proven value and should be used when indicated

In the lower extremity any direct injury in the region of the knee may produce peroneal nerve paralysis. As the nerve winds around the head of the fibula it is practically subcutaneous and it is even more vulnerable than the radial nerve in the upper extremity. The injury often involves a considerable extent of the nerve, and nerve suture is difficult or impossible.

In the arm, flexion of the elbow may be used to allow end-to-end suture, as this is the usual position of the elbow when the hand is active. In the lower extremity, however, acute flexion of the knee is hardly justified in an effort to obtain a good end-to end suture, as even slight flexion deformity of the knee entirely upsets the weight bearing function of the leg, producing fatigue when standing and a limp when walking. Furthermore, the results of suture of the peroneal nerve are notoriously poor.

Injuries of the external popliteal nerve are often associated with fractures of the upper end of the fibula or both bones of the leg Usually the treatment of the fracture requires prolonged immobilization of the leg and foot. In the upper extremity, stiffness of the fingers, hand and wrist causes marked permanent disability and should be avoided even at the risk of insufficient splinting of fractured forearm bones, or inadequate support of paralyzed muscles. In the lower extremity, however, the stiffness that occurs in the foot and the fibrosis in the paralyzed extensor muscles are really an asset in preventing the development of severe equinovarus deformity which is to be expected with complete paralysis of the peroneal nerve When this type of paralysis occurs in childhood, or when no extensive muscle or bone destruction has been associated with the nerve injury, a marked equinovarus deformity will develop To overcome this deformity it is necessary to perform an arthrodesing operation in the subastragalar and midtarsal region, which corrects the supination and adduction of the foot and limits downward motion at the ankle. Such an operation, although it does not restore active dorsiflexion, does produce a very satisfactory

Fig 8—THE LAMBRINUDI PROCEDURE TO CORRECT EQUINUS AND VARUS DEFORMITIES Removal of an appropriate bone wedge through the subastragalar joint corrects the equinus and inversion of the heel Removal of a wedge of bone through the calcaneocuboid joint corrects adduction of the forefoot and the cavus deformity of the foot Fig 9—END RESULT OF LAMBRINUDI TYPE OF SUBASTRAGALAR ARTHRODESIS After correction of the deformity by removal of subastragalar and midtarsal bone wedges, the foot is in a stable weight bearing position As the astragalus remains in equinus, a physiological bone block is established Recurrence of the deformity is prevented by impingement of the posterior tip of the astragalus against the posterior tip of the tibia Fig 10—*TRANSPLANTATION OF THE TIBIALIS POSTICUS TO THE DORSUM OF THE FOOT FOR EQUINOVARUS DEFORMITY* This strong muscle can be used to overcome the varus and equinus deformities which usually follow peroneal nerve paralysis The muscle is freely mobilized to allow it to function well in its transplanted position

surrounding muscles and skin, is indicated on the sketch. Fig. 4 shows the result of the lengthening.

The secondary defect at the place from which the pedicled flap of skin, muscle, and bone is taken is first considerably reduced, either by stitches fixing the skin of the edge to the underlying tissue, or by putting a long silk thread all around through the skin border of this defect; this thread must be knotted together with some tension, so that the area of the defect is decreased. The consequent rather small defect is covered in the same session by an Esser-inlay, i.e., a free and very thin skin graft, put over a negative mold (of the dental compound—Stent) of the wound. This mold is placed with the graft on the wound in just the way that the mold was taken. Pressure is put on it for a week by a thin rubber band bandage. This pressure must be about equal to blood pressure, so that no bleeding or secretion can occur between the graft and the wound. This pressure favors flowing of the blood away from the wound. This reflux of blood and lymph is of greater value than their influx into the wound.

Plate 2.—Patient before and after lengthening operation.

The spike is taken out as soon as the ends of the bone have grown together solidly.

Plate 2-A shows a patient before the lengthening.

Plate 2-B shows a patient after the first bandage was removed. The black spots are dried blood and secretion not yet removed.

My inlay method, used in general in plastic, or structive, surgery, has been published in this review (May, 1943) and, at its birth in 1916, in *Bruns Beitrage,* and in *Annals of Surgery* in 1917.

RÉSUMÉ

L'auteur décrit un procédé pour l'allongement d'un moignon de la cuisse trop court, par la separation *longitudinale* du fémur. Cela obtient une plus grande longueur en dessous de l'axe de rotation L'auteur décrit le procédé qu'il préconise pour réparer les lésions secondaires des tissus mous.

RESUMEN

Se describe un procedimiento para alargar un muñón muy corto de muslo *mediante la separación longitudinal de* la diáfisis femoral. Este metodo proporciona un alargamiento adicional por debajo del eje de rotación que es, precisamente, donde más se necesita. También se describe aquí la reparación secundaria de los tejidos blandos

Свод

Описан способ удлинения очень короткой бедренной культи при помощи разделения в длину бедренного диафиза Этот способ дает длину, где она наиболее нужна, именно, ниже оси вращения Также описана починка вторичных дефектов *мягких тканей*

Screw Fixation of Fractures

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THE object of this paper is to illustrate the methods of screw fixation in various parts of the body. (I do not intend to claim superiority. The results have been relatively good in a short and recent series.) Most of the cases presented have had a sufficient follow-up to indicate satisfactory results, but an end report will be given in a subsequent paper. If the reasons for the use of screws can be demonstrated, as well as the manner in which various joints are approached, the purpose of this paper will have been fulfilled.

The fixation of fractures by the use of screws has never enjoyed much popularity. Although there are accounts of their use in fixing fractures for over a century, they have never been considered routinely satisfactory until recent years. They have been employed frequently, however, in conjunction with metal plates. In the past decade more use of screws, either singly or in groups, has been made for the fixation of fractures than in all the other decades of this century. The use of inert substances, such as vitallium, has made screw fixation more satisfactory. Until the advent of inert metallic substances, the incidence of necrosis and poor results was too great to permit enthusiasm toward their use. The reaction of the neighboring tissues to foreign substances, not only caused local inflammatory changes, but resulted in a loosening of the screw in the fragment, thereby preventing immobilization. Persistent draining sinuses were so frequently encountered, that further such attempts were abandoned. However, any one who has had occasion to remove a vitallium screw realizes that no tissue reaction occurs, and, therefore, one of the greatest hazards in the fixation of fractures has been overcome.

Screw fixation has its chief advantage in regions about joints. This is of particular value because one of the chief complications of fractures is contractures about neighboring joints. In most instances, a single screw is sufficient to permit immediate motion. Whenever this is not possible, two screws can be inserted in a slightly non-parallel direction. *No casts or splinting are necessary.* The value of immediate mobilization cannot be emphasized too greatly, for it maintains the normal physiology of the part as well as preventing considerable loss of time from fibrous ankylosis. The use of screws in the region of a joint is not difficult, because muscular tissue is not present to interfere with dissection. Bone exposure is usually possible through a 1 to 2 inch (2.5 to 5 cm.) incision. The fragment can often be palpated, and, under direct vision, fixed in position. Although fluoroscopic guidance for the insertion of the screws can be used with relative ease and great satisfaction, since there are few soft tissues to obscure visibility, it is usually not necessary. Therefore, in view of the ease of approach, requiring a minimum of surgery, and the satisfaction because of direct visualization, screws in the region of joints are recommended. However, this adaptability is not present for fixation of fractures in the midportion of a shaft. Plate fixation, or reduction and fixation with various types of apparatus, are more suitable in shaft areas.

Certain mechanical principles are involved in screw fixation of fractures

A The screws should pass preferably from cortical bone on the one fragment to or through the cortical bone of the corresponding fragment This is not always possible Some of the photographs which accompany this article reveal examples of the screw passing into the medulla of the shaft of the involved bone In most instances the screw, while passing into the medulla, hugs the inner wall of the cortex and obtains a fairly good purchase Frequently the screw will be bent slightly to follow the inner cortical wall This prevents the screw from becoming loose

B Double screw fixation is sometimes more advantageous than single This can be understood when one realizes that there is a tendency for the fragment to rotate If two screws are inserted in a slightly non parallel direction, such a rotation cannot occur Certainly where a long lever effect is present, as in the region of the femoral neck, a single screw would not be satisfactory In the region of the internal or external condyle of the humerus a single screw usually suffices In most instances a single screw in the malleolus of the ankle fulfills its purpose

C It is not wise to fix a fragment which has been dislodged unless that fragment is needed It would be much better to remove it if such removal does not interfere with growth or function Fragments broken from the condyles of the lower humerus in an adult are not as important as in a child They are not responsible for continued growth of the extremity In some fractures of the multiple, comminuted type, numerous small fragments can be removed without interfering with function "Heaping up" of callous in maintaining these small fragments would interfere with future function and would require greater time and effort on the part of the surgeon

D Vertical fixation should be used wherever it can be applied Mechanically, it is more satisfactory and more easily accomplished There is less chance of endangering vital structures On weight bearing extremities, it does not present the disadvantage in shearing force that is found in fractures that have screws in a transverse direction When a long screw is used in a vertical direction, it is surprising to find that the loose fragment is pulled into fairly accurate position by the screw which threads itself into the medulla of the main fragment

Certain surgical principles should be followed, and are as important as the mechanical principles mentioned above

A Incision should be made over areas where friction will not occur On the elbow it is preferable to have the incision over the lateral side of the olecranon In fractures involving the region of the inner side of the knee the incision should be antero or postero medial In fractures of the acromio clavicular joint, incision slightly anterior to the clavicle is preferable to one directly over the joint

B The incision should be made in the direction of the ligaments and muscles, rather than in a direction in which they will be severed In fractures of the malleoli of the ankle, vertical incisions are preferable The principle of following lines of skin cleavage is not applicable if such an incision requires the division of important ligamentous structures The importance of ligaments to their respective joints [illegible] oo greatly stressed The [illegible] occurs when such ligam is not always appreciated. When ligaments have been sutured their function has been greatly affected, and the discomfort from the scarring is ofttimes marked.

C. Fascia and aponeuroses should not be detached, unless this is absolutely essential to obtain exposure of the fractured segment. To denude a fragment almost entirely of its aponeurotic and fascial covering will frequently lead to non-viability. It is preferable to pass the screw through the aponeurotic area rather than denude a large area. In most instances, a small incision in the direction of the fibers will permit the screw to be started in the fragment. It is not uncommon to find drainage in the region of the elbow joint or of the tibial plateau following attempts at internal fixation of these structures. Suppuration does not occur frequently, but necrosis is present with a persistent draining sinus for many weeks. The removal of the non-viable denuded ligamentous structure usually causes the drainage to cease.

The illustrations which accompany this article are of various parts of the body. Legends describe the method in that particular area. It is not to be implied that screw fixation is the best method in each particular case, but rather to show that it can be utilized in the manner shown. Undoubtedly fixation with heavy suture material, small nails, or possibly even in some cases, no fixation at all, might have been a better procedure. One must utilize the method which he feels will be most satisfactory in his own individual hands. In the cases shown I aim to stress the use of the screw particularly in

1. fractures of the upper ulna with a fracture of the radial head
2. fractures about the internal and external malleoli of the ankles, and
3. fractures of the tibial plateau and condyles of the femur.

Description of cases: A fracture involving the radial head or neck (fig. 1) and the upper portion of the olecranon (fig. 2) can be treated by a posterior approach just lateral to the olecranon with the incision extended along the upper shaft of the ulna. The radial head usually is easy to remove and the long screw is inserted into the shaft of the ulna. It is easily performed under direct vision and the fragments line up well, since the fragment is literally threaded over the screw. Motion can be started within a few days.

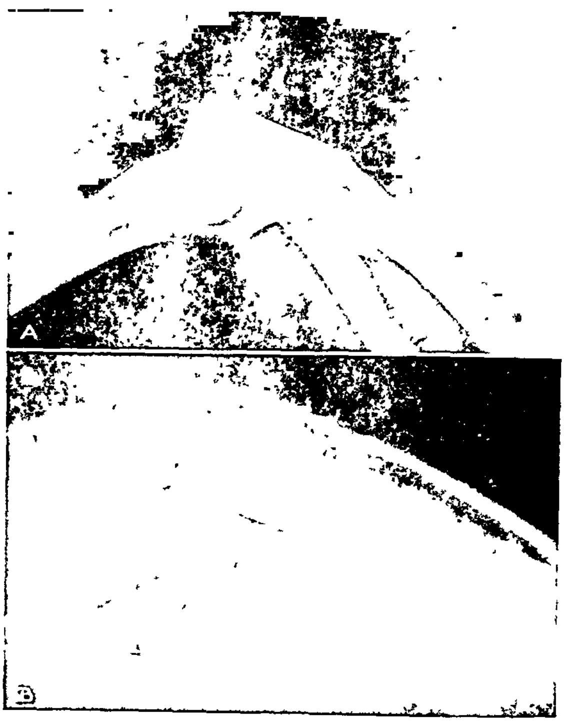

Fig. 1.—*A* Fracture of upper shaft of ulner and neck of radius. *B* Radial head removed; fixation of ulner.

A 1 inch (2.5 cm.) incision often can be used for fractures of the humeral condyle (fig. 3). A screw of small diameter is preferable because of the narrowing of the supra-condylar region of the humerus. On the medial side, the ulnar nerve, of course, must be avoided The need for fixation to prevent growth disturbances in children must be recognized

Treatment of fractures about the elbow has recently been described by Dr Paul H Harmon[1] He uses a long stainless steel screw which is permitted to protrude through the skin and can be removed after union has taken place MacAusland[2] uses a shorter screw buried beneath the skin at open operation Rush and Rush[3] have described the use of longitudinal pins in extensively comminuted fractures of the upper half of the ulna

In acromioclavicular separations, the insertion of a screw in the manner described by Bosworth has proved satisfactory (fig 4) A large enough incision to permit palpation of the coracoid process is recommended This method should not be used by one who is not trained in bone and joint surgery, since there is a danger to vital struc

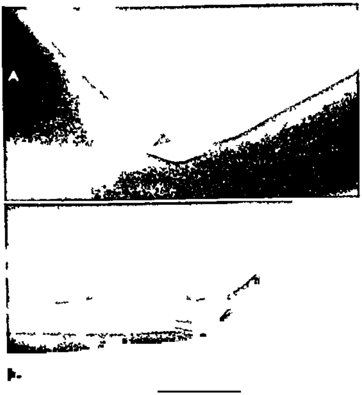

Fig 2—*A* Comminuted fracture of olecranon *B* Nonessential fragments removed, double screw fixation

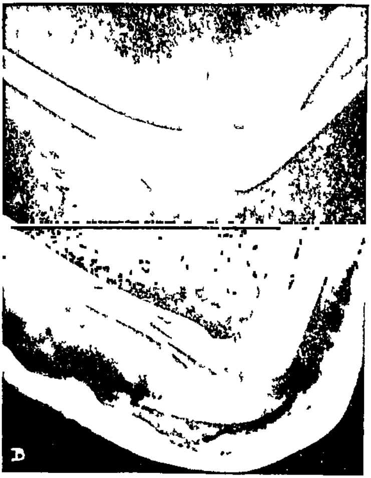

Fig 3—*A* Fracture of external humeral condyle with marked rotation *B* Fixation by single vertical screw following reduction

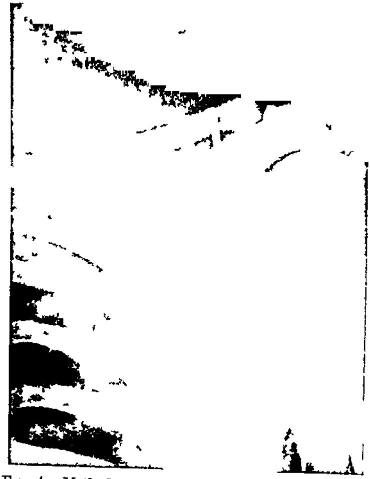

Fig 4—Method of maintaining reduction of acromioclavicular separation

Sección en Español

Un Gran Luchador: Albee

EN la pequeña aldea de Alna, Maine, apenas visible en el mapa de América, vino a la vida, el 13 de abril de 1876, una criatura que, andando el tiempo, llegaría a ser uno de los más preclaros cirujanos de nuestro tiempo. Su nombre fué Fred. H. Albee. En la probeza de la granja paterna discurrieron sus primeros días, alimentados ya por la fortaleza, la energía y la fé que iban a rubricar toda su existencia. Todavía entonces está obscuro e incierto el provenir, aun no ha descubierto el rumbo que ha de imprimir a su vida, pero ya la curiosidad y el entusiasmo le alientan en la dura senda que va a emprender.

Nacido de una familia de marinos y agricultores, tiene los ojos abiertos a lo imprevisto y el corazón preparado para la lucha que va a empezar muy pronto. Al lado de su abuelo Houdlette comienza a adquirir conciencia de su vocación, al contemplar con sus ojos de niño los injertos que sobre árboles y árboles va haciendo el buen viejo. Esta fué quizas su primera lección en lo que más tarde habría de constituir la pasión de su vida. Luego vinieron otros aprendizajes y experiencias más importantes: la escuela, la universidad y los hospitales. Paso a paso, con una fé inquebrantable y una energía indecible, va enriqueciendo su mente con nuevos conocimientos y renovados experimentos. El trabajo es para Albee como una necesidad imperiosa a la que se entrega sin reservas. Sus años de estudiante y sus primeros días de médico están caracterizados, precisamente, por un infatigable laborar que apenas le deja tiempo para ninguna otra cosa.

Así pudo éste hombre singular llegar a la meta de sus nobles ambiciones, porque no se acobardó ante el consabido "eso no lo ha hecho nadie todavía", que a tantos otros cierra el paso; pero Albee puso al servicio del ideal su energía, su habilidad, sus conocimientos y su imaginación, para llegar a ser, como él mismo dice, "todo un hombre".

Su característica esencial fué la lucha, la lucha sin tregua y sin desmayo a través de toda su existencia convirtiéndose de éste modo en el precursor de un nuevo sistema. De que era un luchador tenía Albee plena conciencia. Véase si no sus propias palabras: "Toda mi vida he sido un luchador. No recomiendo a nadie ésta clase de vida como fácil, pero si la garantizo como una existencia llena de contenido."

Durante su internado, Albee entra en contacto directo con el dolor y la muerte y como reacción lógica nace en la conciencia del luchador el ímpetu y la decisión de vencer a ambos con nuevas armas más adecuadas para el combate. De ésta forma y tras renovadas experiencias llega por fín a la aplicación práctica de su método de los injertos óseos en la columna vertebral. Después de él, y siguiendo sus huellas, otros han aportado tambien su grano de arena, pero a Albee se debe el arranque inicial de una técnica que había de revolucionar la cirugía.

Desde los tiempos heroicos de la medicina en América, que había de verse aupada al rango de gran ciencia con los nombres de John Morgan, Benjamin Rush, Ephraim McDowell, Daniel Drake, William Beaumont, Crawford W. Long, William T. G. Morton y tantos otros, quizá ningun hombre haya contribuido más al adelanto de la cirugía como lo hizo Fred Albee.

Tuvo Albee, entre otras, tres grandes virtudes: la actitud crítica de Paracelso, la capacidad observadora de Vesalio y el impulso experimentador de Paré. Todas ellas las usó con largueza y no escatimó sacrificios en el duro camino que había elegido. Aun hay más, y es que éste hombre infatigable nunca se amilanó ante la duda y escogió, entre todas, su propia opinión. He aquí, a mi juicio, la clave de su triunfo: el pensar y actuar por cuenta propia, despreciando el concepto arcaico de que la ciencia destruye la personalidad, haciendo de ella un mero numero. Por encima de todo estaba el beneficio de la humanidad desvalida, todo lo demas fué pura anécdota para Albee. Gracias a ello miles de vidas se han salvado y aun mayor número de miembros han escapado a la amputación.

Su sentido social corría parejo a su actitud científica dando perfecto equilibrio a su mente abierta a los principios más liberales y democráticos. De ésta forma, su concepto del mundo como lugar de habitación agradable para el hombre se funda en la justicia y el raciocinio. Ve claro el problema y lo afronta sin ambajes. "No es bastante—dice—el apiadarse de los enfermos y de los mutilados, no es bastante el hacer caridades. El enfermo y el mutilado son un desperdicio económico y es un contrasentido criminal el aceptar la vieja ley de la supervivencia de los biendotados y encogerse de hombros. La sociedad misma se halla enferma cuando grandes contingentes de sus miembros son físicamente incapaces."

Para poner remedio a ese estado de cosas lucho toda su vida en su país y en muchos otros, alentado por un optimismo incurable, mirando al mismo tiempo hacia el pasado y hacia el porvenir. Es éste optimismo y aquella fé que antes dijimos los que le hicieron exclamar en los días de la segunda Guerra Mundial, tan presente, las siguientes palabras: "Lo que se ha hecho es solo el comienzo. Todavía hay tiempo para más."

Por desgracia a él no le quedó mucho tiempo, el hilo de su vida fué cortado muy pronto. Su existir material se ha extinguido pero su ejemplo, sus enseñanzas, sus virtudes, su entusiasmo y su fe siguen latiendo como un simbólico índice que nos señala, a los que quedamos, el camino a seguir. Adentrémonos por él resueltos y dispuestos a llegar a la meta, si alguien queda atrás no hay que volver la vista sino apretarse el corazón y seguir.

El Colegio Internacional de Cirujanos que tanto debe a Albee sigue las huellas todavía calientes de su desaparecido Presidente Internacional, teniendo por lema los mismos principios humanitarios y científicos que animaron a aquel hombre en todo momento. En el mundo entero se conoce, respeta y venera el nombre de Fred H. Albee. Con su muerte perdió la ciencia un firme puntal y la humanidad un amigo generoso.

Dr. Manuel [illegible]